US

REGISTERS GRILLES

&

ACCESSORIES

AIA30J

Gravity ★ Air Conditioning and Commercial Lines

CATALOG NO. 47

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Mike Jackson, FAIA

UNITED STATES REGISTER CO.

GENERAL OFFICE AND PRODUCTION FACTORIES — BATTLE CREEK, MICHIGAN, U. S.A.

The Most Modern and Complete Plant of its Kind in the Register Industry. Over 280,000 Square Feet of Floor Area. Located on Main Rail Lines and Truck Lines. Total Floor Space of All Factories Over 425,000 Square Feet.

The Only Register Manufacturer with Definitely-Owned Branch Factories and Warehouses for Nation-Wide Efficient Distribution and Service to the Heating, Ventilating and Air-Conditioning Industry.

The Only Register Manufacturer Also Producing a Complete Line of Furnace Pipe and Fittings.

From these Branch Factories Radiate Service on U. S. Products — Registers and Fittings to All Parts of the U.S.A. Not Served by Our Main Factories at Battle Creek, Michigan

330-332 W. Fifth Street, Kansas City, Mo.

MEMBER
NATIONAL WARM AIR HEATING
INDOOR COMFORT
AND AIR CONDITIONING ASSOCIATION

UNITED STATES REGISTER CO.

2109 Cedar Avenue, Minneapolis, Minn.

UNITED STATES REGISTER CO.

5-7 Jackson Street, Albany, N. Y.

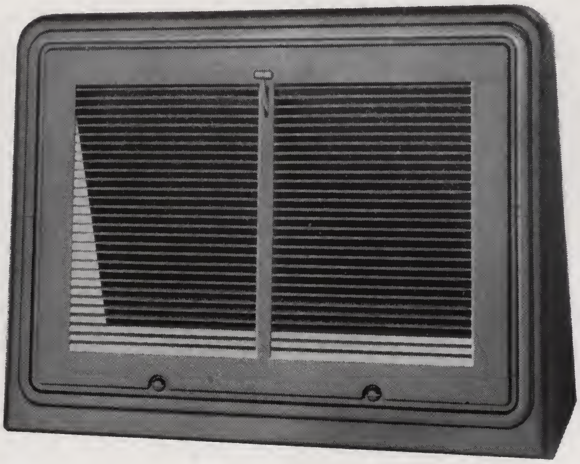
UNITED STATES REGISTER CO.

GENERAL OFFICES AND FACTORIES, BATTLE CREEK, MICHIGAN, U. S. A.

No. 40 SERIES U. S. BASEBOARD REGISTER with Detachable Face

For Gravity Installations — Also Very Practical for Converting Gravity to Air-Conditioning Installations

DISTINCTIVE — NON-VISION — LEAK-PROOF



Recommended Standardized Sizes of No. 40 SERIES, U. S. GRAVITY BASEBOARD REGISTERS, as Authorized by the CODE COMMITTEE of the National Warm Air Heating and Air-Conditioning Association.

No.	Size	Base Extension	Pipe Size
43½	10 x 8	2¼″	8″
42½	12 x 8	2¼″	9″
44¼	12 x 9	3¼″	10″
456	13 x 11	5¼″	12″

No other sizes are necessary. However, other obtainable sizes as listed on Page 5 may be furnished.

Read Carefully the Following Outstanding Features of the No. 40 Series

No. 40 SERIES is made in ALL STANDARD BASEBOARD SIZES with Standard Base Extensions. Catalog number designates STYLE, SIZE and BASE EXTENSION. Note reference to recommended standardized sizes.

NON-VISION FEATURE—Grille-Bars are ¼ inch deep. Spaced ¼ inch apart. From Point of Vision Completely Conceals View of Damper and Interior of Register Head. Grille-Bars are set for straight flow through Register Face.

VALVE OPERATION permits Damper to open to full 90° if necessary and will remain positively firm at any setting with any Velocity of Air-flow. Adjustments may be made to any pressure of Valve-lever Operation desired.

MAXIMUM FREE AREA—Louver Bars are set at 90° with Face which develops A FREE AREA POSITIVELY EQUAL TO ANY TYPE OF GRAVITY BASEBOARD REGISTER.

FLEXIBILITY OF AIR-FLOW may be easily attained when desired by SETTING LOUVER BARS of GRILLE with SETTING WRENCH to any Required Angle of Up-flow or Down-flow.

CONVERSION ADAPTABILITY Makes it a Simple Register Problem to Convert an OLD GRAVITY JOB to a MODERNIZED AIR-CONDITIONED SYSTEM. SIMPLY Attach the No. 40 SERIES to the Register Heads of corresponding sizes already installed.

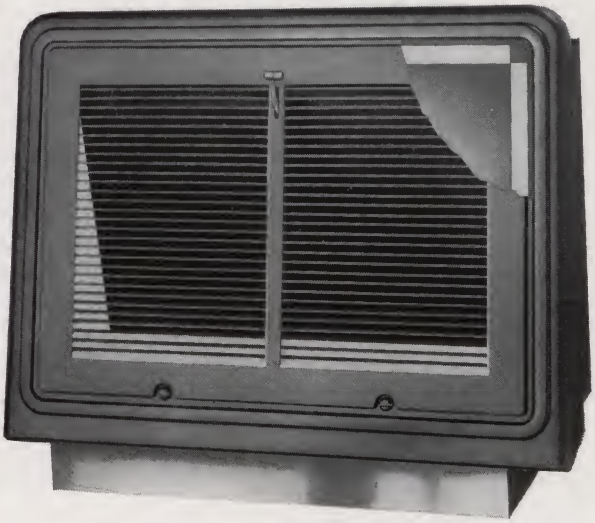
DESIGN APPEARANCE — RETIRING, INCONSPICUOUS and GIVES TOUCH and TONE to ANY INSTALLATION and BLENDS in with all kinds of Surroundings.

METALAC — A FINISH TAKING THE GROUP 1 LIST. A VERY DESIRABLE SHADE of ANTIQUE BRASS WHICH LENDS ITSELF SPLENDIDLY to the No. 40 SERIES DESIGN. May be used also as a Prime Coat Finish.

The U. S. Method of Connecting No. 40 BASEBOARD REGISTER

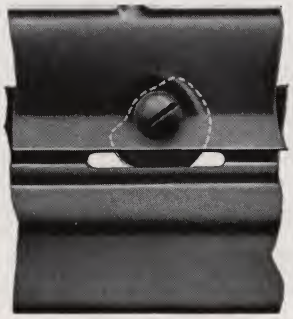
A Guarantee of Clean Register Installation

A Feature That Is Very Essential On Converted Air-Conditioning Installation Is to Prevent Leakage Between Register and Register Head Which This Definitely Accomplishes



THE U. S. METHOD of Flanging the Register Head Collar over the Baseboard Frame DEFINITELY PREVENTS LEAKAGE. ULTIMATE INSTALLATION COST IS LESS THAN With One-piece Baseboard Registers. This Method of Attachment was originated by and has been An Outstanding Feature of U. S. Two-Piece Baseboard Registers.

U. S. Turn-Button Attachment



Patented

Showing Method of Attaching Register Face to the Baseboard Frame

The Patented Turn-Button of No. 40 U. S. BASEBOARD REGISTERS attaches Face to the Frame with a HALF-TURN of a Screw-driver more Tightly than can be done Safely with bolts or screws.

STUDY CAREFULLY THE ABOVE VERY SUPERIOR FEATURES OF THE No. 40 SERIES.

LIST PRICES No. 40 Series U. S. BASEBOARD REGISTERS

Catalog Number	Size of Register Head Opening	Base Extension Beyond Plaster	Metalac or Prime Coat Group 1	White Ivory Group 2	Number Per Case	Free Area Square Inches	Overall Width	Overall Height	Gross Weight Each
•43½	10 x 8	2¼	$2.00	$2.35	25	64	13⅜	11⅜	4.7
•42½	12 x 8	2¼	2.40	2.90	25	78	15⅜	11⅜	5.3
44½	12 x 9	2¼	3.00	3.50	25	88	15⅜	12½	5.5
42¼	12 x 8	3¼	3.00	3.50	25	78	15⅜	11¼	5.5
•44¼	12 x 9	3¼	3.00	3.50	25	88	15⅜	12⅜	6.0
45¼	12 x 10	3¼	4.00	4.60	25	98	15⅜	13⅜	6.4
46	13 x 11	3¼	4.50	5.25	25	118	16⅜	14⅜	7.0
•456	13 x 11	5¼	5.25	6.00	20	118	16⅜	13⅞	7.3

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating & Air-Conditioning Association.

We urgently advise adherence to Standardized Sizes. Other sizes are unnecessary but available until production of other than Standardized Sizes will be unnecessary.

Finish Symbols and Explanations

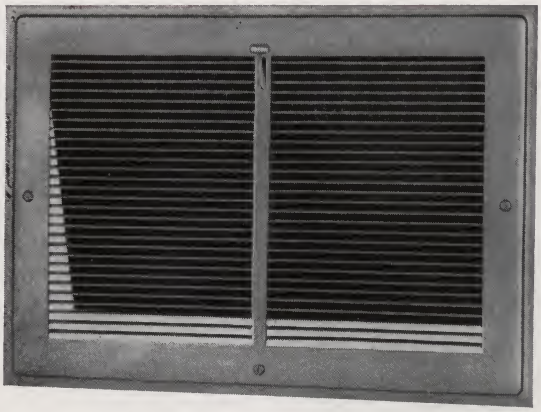
Group 1. MT—Metalac; PC—Prime Coat.

Group 2. W—White; IV—Ivory.

No. 240 U. S. SIDEWALL REGISTER

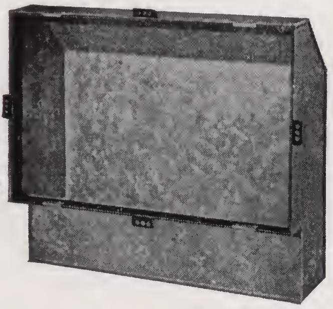
To Match the Design of No. 40 Series Baseboard Register

Grille-Bars are flexible and may be set with Wrench for UPWARD and DOWNWARD FLOW



The No. 240 U. S. SIDEWALL REGISTER Matches the Design of No. 40 SERIES REGISTER

Margins have a formed Bevelled Edge that Fits Tightly to Finished Wall Surface and conforms perfectly to the Design of the No. 40 Series Baseboard Register.



Method of Attaching Band Frame to Stackhead

The No. 240 U. S. Sidewall Register as standard equipment is furnished with a Band Steel Frame that is attached to the inside of the Stackhead with Metal Straps that Loop through Slot Holes in the Frame — or may be attached to Stackhead with Metal Screws for which holes are arranged in the frame in the sides as well as top and bottom.

LIST PRICES No. 240 U. S. SIDEWALL REGISTERS

Size of Stackhead Opening Wide x High	Width of Standard Wallstack	Metalac Prime Coat Group 1	White Ivory Group 2	Number Per Case	Free Area Square Inches	Overall Size of Face	Gross Weight Each
●10 x 8	10″	$1.50	$1.80	25	64	11¾ x 9¾	3.4
●12 x 8	12″	1.75	2.10	25	78	13¾ x 9¾	3.8
12 x 9	12″	1.90	2.30	25	88	13¾ x 10¾	4.4

Sizes preceded by ● are Standardized Sizes authorized by Code Committee of National Warm Air Heating & Air-Conditioning Association.

We urgently advise adherence to Standard Sizes. Other sizes are unnecessary and only sizes listed will be furnished in the No. 240 Series.

Order by No. 240 — Stackhead Size and Finish. First Dimension represents Width, Second represents Height.

Finish Symbols and Explanations

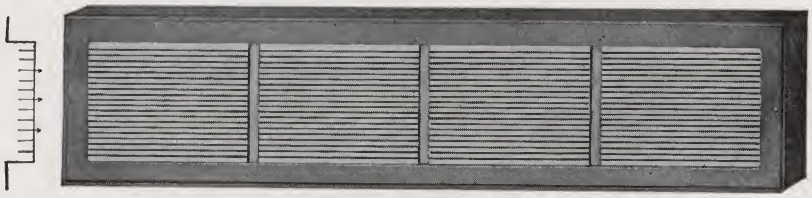
Group 1. MT—Metalac; PC—Prime Coat.

Group 2. W—White; IV—Ivory.

No. 175 U. S. BASEBOARD INTAKE - 7/8 Inch Base Extension

Matches Design of No. 40 Series U.S. Baseboard Register

SAME DESIGN
AS No. 40 LINE



⅞ INCH BASEBOARD EXTENSION FOR BASEBOARD SETTINGS

Furnished with Attaching Wood Screws.

LIST PRICES of No. 175 Baseboard Intake (⅞-inch Extension)

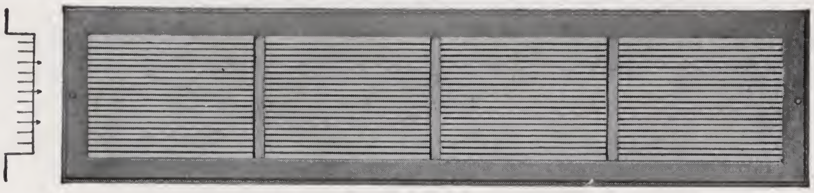
Catalog Size or Duct Opening Wide x High	Metalac Prime Coat Group 1	White Ivory Group 2	Overall Size Wide x High	Free Area Square Inches	Gross Weight Each
14 x 4	$1.05	$1.20	15⅝ x 5⅝	45	1.8
30 x 4	1.75	2.05	31⅝ x 5⅝	96	4.

Above Listed Sizes are Standardized Sizes Authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. For Other Listed Sizes Refer to Air-Conditioning Section of This Catalog.

No. 177 U. S. FLAT INTAKE - with Beveled Edge Margin

Matches Design of No. 40 Series U. S. Baseboard Register

MATCHES
DESIGN of
No. 40 LINE



FLAT BEVELLED EDGE MARGIN to SET AGAINST BASEBOARD or FLAT SURFACE

Furnished with Attaching Wood Screws.

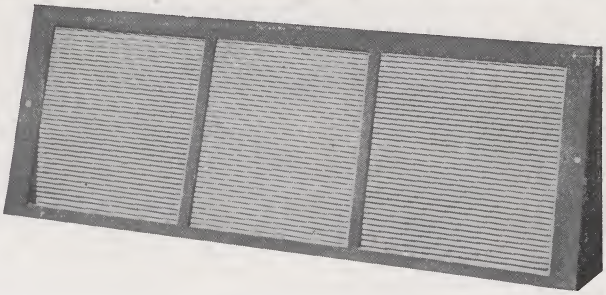
LIST PRICES of No. 177 Flat Intake (Beveled Edge Margin)

Catalog Size or Duct Opening Wide x High	Metalac Prime Coat Group 1	White Ivory Group 2	Overall Size Wide x High	Free Area Square Inches	Gross Weight Each
14 x 4	$ .95	$1.10	15½ x 5½	45	1.5
30 x 4	1.55	1.85	31½ x 5½	96	3.1

Above Listed Sizes are Standardized Sizes Authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. For Other Listed Sizes Refer to Air-Conditioning Section of This Catalog.

No. 4000 U. S. BASEBOARD RETURN - AIR INTAKE

For BASEBOARD INSTALLATION WHERE COLD AIR RETURNS CANNOT BE LOCATED IN THE FLOOR OR ARE PREFERRED IN BASEBOARD.



MATCHES DESIGN of No. 40 BASEBOARD LINE. ATTACHES TO WALL WITH WOODSCREWS FURNISHED WITH EACH INTAKE.

Catalog Number	Duct-Wall Size Wide x High	Base Extension in Inches	Metalac Prime Coat Group 1	White Ivory Group 2	Free Area Square Inches	Gross Weight Each
4014	14 x 10	4	$2.50	$3.00	113	4
4030	30 x 10	4	5.00	6.25	240	8.3

Finish Symbols and Explanations

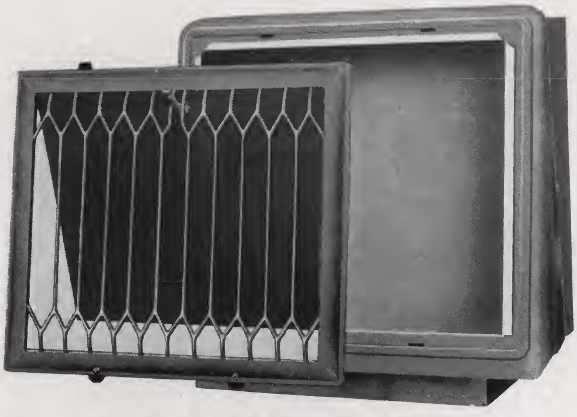
Group 1. MT — Metalac; PC — Prime Coat.
Group 2. W — White; IV — Ivory.

No. 900 PANAMA BASEBOARD REGISTERS with Detachable Face

For Gravity Installations Only

PANAMA REGISTER is made of two parts — a register and a frame. The frame fits against the plastered wall and the register box passes through and flanges over the Frame making a Perfect Sealed Connection between register and box. The center, or register proper, attaches to the frame by means of two lugs at the top and one or two turn-buttons at the bottom, making a neat finish, as shown in the illustration. We guarantee Panama Registers against breakage. The turn-buttons at bottom release or fasten center to frame by a half turn with a screwdriver.

IMPORTANT — To derive full benefit of the Streak-Preventing Feature of Panama Registers, permit flange of Register box to extend through and bend over frame.



Showing face detached from the frame

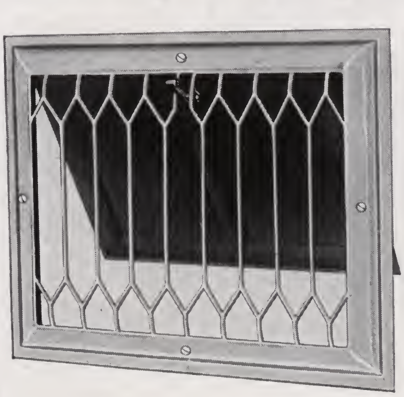
LIST PRICES of PANAMA BASEBOARD REGISTERS

Catalog Number	Size of Face	Base Extension Beyond Plaster	Metalac Prime Coat Group 1	White Ivory Group 2	Number Per Case	Free Area Square Inches	Overall Width	Overall Height	Gross Weight Each
•953½	10 x 8	2¼	$2.00	$2.35	25	63	13⅜	11⅜	3.8
•952½	12 x 8	2¼	2.40	2.90	25	77	15⅜	11⅜	4
954½	12 x 9	2¼	3.00	3.50	25	87	15⅜	12½	4.5
952¼	12 x 8	3¼	3.00	3.50	25	77	15⅜	13½	4.3
•954¼	12 x 9	3¼	3.00	3.50	25	87	15⅜	12⅜	4.5
955¼	12 x 10	3¼	4.00	4.60	25	96	15⅜	13⅜	4.8
956	13 x 11	3¼	4.50	5.25	25	115	16⅜	14⅜	5.3
•9556	13 x 11	5¼	5.25	6.00	20	115	16⅜	13⅞	5.5

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise adherence to Standardized Sizes.

No. 940 PANAMA SIDEWALL REGISTERS - Single Valve

Furnished in Horizontal and Vertical Styles — only in Listed Sizes. First dimension designates Width — second dimension designates Height. Example: 10 x 8 H means Horizontal. 8 x 10 V means Vertical.



LIST PRICES of No. 940 Panama Sidewall Registers

Size of Stackhead Opening Wide x High	Width of Standard Wallstack	Metalac Prime Coat Group 1	White Ivory Group 2	Number Per Case	Free Area Square Inches	Overall Size of Face	Gross Weight Each
•10 x 8-H	10″	$1.50	$1.80	25	63	11¾ x 9¾	2
•12 x 8-H	12″	1.75	2.10	25	77	13¾ x 9¾	2.3
12 x 9-H	...	1.90	2.30	25	87	13¾ x 10¾	2.5
12 x 10-H	...	2.20	2.65	25	96	13¾ x 11¾	2.8
8 x 10-V	...	1.50	1.80	25	63	9¾ x 11¾	2
8 x 12-V	...	1.75	2.10	25	77	9¾ x 13¾	2.3
9 x 12-V	...	1.90	2.30	25	87	10¾ x 13¾	2.5
10 x 12-V	...	2.20	2.65	25	96	11¾ x 13¾	2.8

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association.

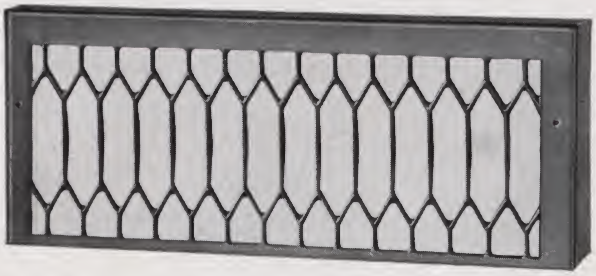
PANAMA Sidewall Registers are equipped with Angle Iron Frames which attach to inside of Stackhead with Metal Straps or Metal Screws.

Finish Symbols and Explanations

Group 1. MT — Metalac; PC — Prime Coat.
Group 2. W — White; IV — Ivory.

No. 900 PANAMA BASEBOARD INTAKES

Matches Design of No. 900 Series Panama Baseboard Registers



SAME DESIGN
AS PANAMA
BASEBOARD
REGISTER

⅞-INCH BASEBOARD
EXTENSION
FOR BASEBOARD
SETTINGS

Furnished with Attaching Wood Screws

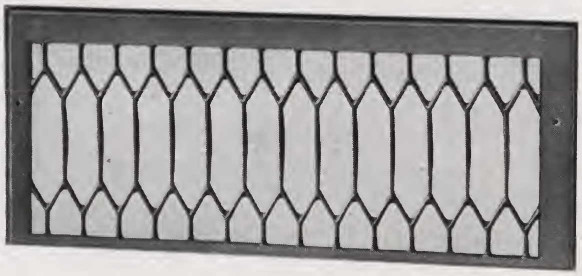
LIST PRICES of Panama Baseboard Intakes (⅞-Inch Extension)

Catalog Number	Catalog Wall Size Wide x High	Metalac Black Japan Prime Coat Group 1	White Ivory Group 2	Free Area Square Inches	Overall Size	Gross Weight Each
•414	14 x 4	$1.00	$1.40	45	16¼ x 4⅝	1
244	24 x 4	1.75	2.25	77	26¼ x 4⅝	1.5
•340	30 x 4	2.15	3.00	97	32¼ x 4⅝	1.8
914	14 x 6	1.35	1.75	67	16¼ x 6⅝	1.3
924	24 x 6	2.10	2.60	114	26¼ x 6⅝	1.8
930	30 x 6	2.50	3.35	144	32¼ x 6⅝	2.3

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association.

PANAMA FLAT INTAKES - with Beveled Edge Margin

Matches Design of No. 900 Series Panama Baseboard Registers



SAME DESIGN AS
PANAMA BASEBOARD
REGISTER

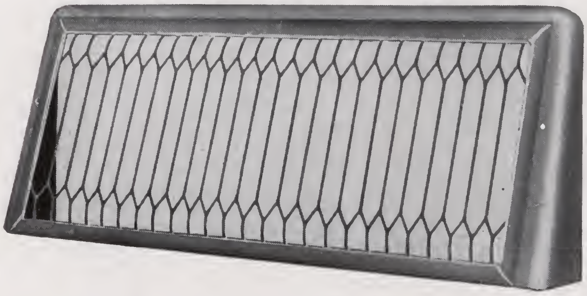
FLAT MARGIN WITH
BEVELLED EDGE —
NO BASE EXTENSION

Furnished with Attaching Wood Screws

LIST PRICES of Panama Flat Intakes

Catalog Number	Catalog Wall Size Wide x High	Metalac Black Japan Prime Coat Group 1	White Ivory Group 2	Free Area Square Inches	Overall Size	Gross Weight Each
•414-F	14 x 4	$1.00	$1.40	45	16¼ x 4⅝	.8
244-F	24 x 4	1.75	2.25	77	26¼ x 4⅝	1
•340-F	30 x 4	2.15	3.00	97	32¼ x 4⅝	1.3
914-F	14 x 6	1.35	1.75	67	16¼ x 6⅝	1
924-F	24 x 6	2.10	2.60	114	26¼ x 6⅝	1.3
930-F	30 x 6	2.50	3.35	144	32¼ x 6⅝	1.5

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association.



No. 9000 Panama Baseboard Return-Air Intakes

Catalog Number	Catalog Wall Size Wide x High	Base Extension in Inches	Metalac Black Japan Prime Coat Group 1	White Ivory Group 2	Free Area Square Inches	Gross Weight Each
9014	14 x 10	4	$2.50	$3.00	112	3.8
9030	30 x 10	4	5.00	6.25	240	4.9

Finish Symbols and Explanations

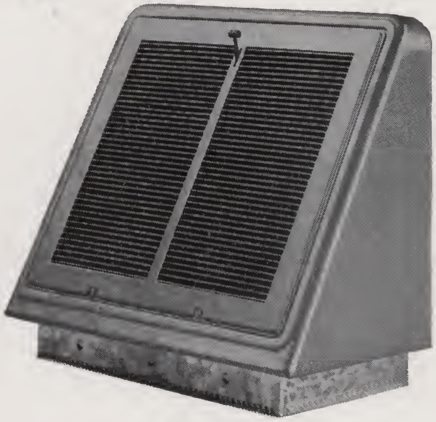
Group 1. MT — Metalac; PC — Prime Coat.
Group 2. W — White; IV — Ivory.

No. 700 SERIES - U. S. SPECIAL BASEBOARD REGISTERS

Complete with Heads — Out-of-the-Wall TYPE, REQUIRES NO PARTITION SPACE

Equipped with Double-Thickness Metal Heads Only — **A Complete Unit**

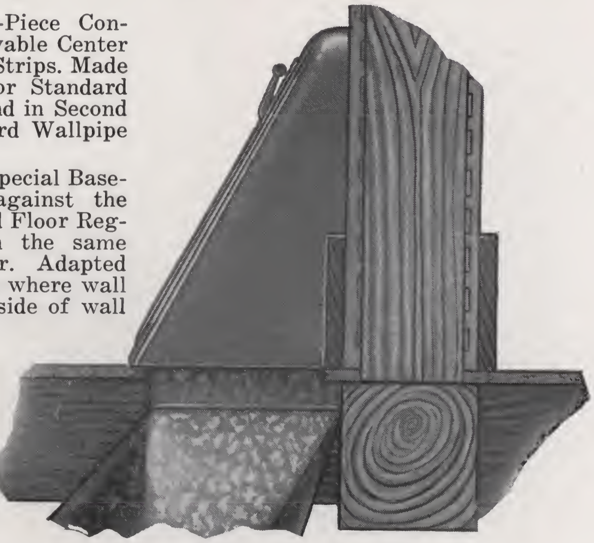
Can be installed in old houses as easily as floor registers, without cutting joists, sills, studding or lath and plaster.



First Floor
Complete with Double Box
Saves Cutting Joists and Sills

Register is of Two-Piece Construction — with Removable Center — Leak-Proof Sealing Strips. Made in First Floor Sizes for Standard Basement Pipe Sizes and in Second Floor Sizes for Standard Wallpipe Sizes.

No. 700 Series U. S. Special Baseboard Registers set against the Outside of Wall. Second Floor Registers are installed in the same manner as First Floor. Adapted for use in old buildings where wall stacks must be set outside of wall instead of inside.



LIST PRICES No. 700 Series U. S. Special BASEBOARD REGISTERS, Complete with Heads

FIRST FLOOR

Catalog Number	Size of Register Face	Size of Basement Pipe	Size of Boot	Metalac Prime Coat Group 1	White Ivory Group 2	Gross Weight Each
743½	10 x 8	8″	6⅛ x 10	$5.50	$6.00	8
742½	12 x 8	9″	6⅛ x 12	6.75	7.25	10
744¼	12 x 9	10″	7 x 12	8.00	8.50	11
746	13 x 11	12″	7 x 13	8.50	9.25	12

SECOND FLOOR

Catalog Number	Size of Register Face	Width of Standard Wall Stack	Metalac Prime Coat Group 1	White Ivory Group 2	Gross Weight Each
743	10 x 8	10″	$5.00	$5.50	8
742	12 x 8	12″	5.50	6.25	10

LIST PRICES No. 700 Series U. S. Special BASEBOARD REGISTERS Without Boxes

FIRST FLOOR

Catalog Number	Size of Register Face	Size of Basement Pipe	Metalac Prime Coat Group 1	White Ivory Group 2
743½	10 x 8	8″	$3.40	$3.90
742½	12 x 8	9″	4.55	5.05
744¼	12 x 9	10″	5.60	6.10
756	13 x 11	12″	6.00	6.75

SECOND FLOOR

Catalog Number	Size of Register Face	Width of Standard Wall Stack	Metalac Prime Coat Group 1	White Ivory Group 2
743	10 x 8	10″	$3.15	$3.75
742	12 x 8	12″	3.50	4.25

If PANAMA DESIGN is Preferred order as above but Specify "PANAMA DESIGN"

Finish Symbols and Explanations

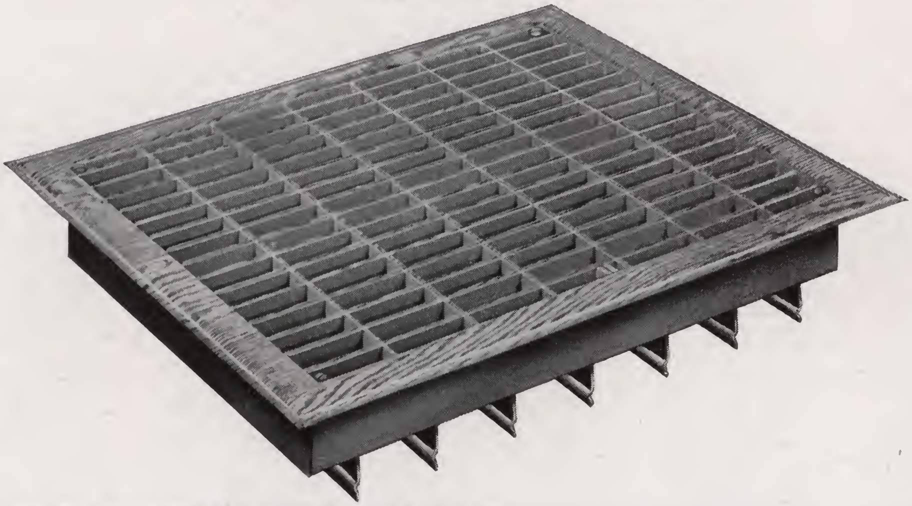
Group 1. MT — Metalac; PC — Prime Coat.
Group 2. W — White; IV — Ivory.

NEW No. 400 U. S. TRUSSTEEL FLOOR REGISTERS - Multiple Valves

REGULAR MESH 5/8 x 1-15/16 Inches — 82% FREE AREA

The construction of this type of Floor Register involves the use of Steel Bars which are notched and the cross-bars fitted and pressed into notched opposite bars. This assembly is attached to angle frame by means of Patented Attaching Hooks formed at end of each bar. Bar-Spacing is sufficiently narrow to prevent heels from entering.

No. 400 — FINEST GRID-TYPE REGISTER



FEATURING
the NEW
CLEAR MESH

PERFECT
SMOOTH
SEAMLESS
CORNERS

Multiple Valves are assembled the SHORT WAY for Easier Operation. Prevents Air Currents from washing walls when valves are not set wide open. A Feature that is Brand New in Floor Register Construction.

Lever operates in ONE-MESH Space in center of Long Dimension Side which eliminates the Old-Style End-Slot. This feature of Register Face Construction permits the use of a Trussteel Register Face as a Cold-Air Face in an emergency.

The No. 400 Register Top or Face attaches to Register Body with screws through Screw-Hole Lugs in Top of Register Face.

All No. 400 REGISTER TOPS (Faces) are Bevel-Edged. Extreme Depth with Valves Open up to 18 inch widths inclusive is 2⅞ inches. Widths 20 inches and wider 3⅞ inches Deep.

LIST PRICES of No. 400 TRUSSTEEL FLOOR REGISTERS — 403 TOPS (Register Faces)

STANDARD SIZES as Recommended for General Practical Purposes. Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association.

No. 400 Registers Complete with Multiple Valves.

Size Duct or Floor Opening	Black Japan Metalac Prime Coat Group 1	Oak White Group 2	Free Area Square Inches	Gross Weight Each	Register Bodies or Bottoms
6 x 8	$1.55	$1.65	39	3.3	$ .80
6 x 10	1.60	1.70	49	4.0	.80
6 x 12	1.80	1.95	59	4.5	.80
• 8 x 10	1.70	1.85	66	5.0	.80
8 x 12	1.90	2.05	79	5.8	.85
8 x 14	2.95	3.15	92	6.0	1.60
• 9 x 12	2.15	2.35	89	6.0	.90
•10 x 12	2.40	2.60	98	6.5	.95
10 x 14	3.40	3.65	115	7.8	1.80
12 x 12	3.60	3.85	118	7.8	1.80
•12 x 14	4.25	4.55	138	8.8	2.20
14 x 14	5.65	6.00	161	9.8	3.40
•14 x 16	6.85	7.20	184	11.0	4.50
14 x 18	8.10	8.50	208	12.5	5.60
16 x 18	9.90	10.35	236	14.2	7.20
18 x 20	13.15	13.70	295	17.0	10.20
20 x 24	18.55	19.20	394	24.5	15.20
22 x 24	21.60	22.35	433	27.8	17.80
24 x 24	24.30	25.15	472	30.0	20.00

No. 403 Trussteel Register Tops (Faces).

Size Duct or Floor Opening	Black Japan Metalac Prime Coat Group 1	Oak White Group 2
6 x 8	$ .90	$1.00
6 x 10	1.00	1.10
6 x 12	1.20	1.35
8 x 10	1.10	1.25
8 x 12	1.30	1.45
8 x 14	1.65	1.85
9 x 12	1.50	1.70
10 x 12	1.70	1.90
10 x 14	2.00	2.25
12 x 12	2.20	2.45
12 x 14	2.50	2.80
14 x 14	2.90	3.25
14 x 16	3.10	3.45
14 x 18	3.40	3.80
16 x 18	3.80	4.25
18 x 20	4.40	4.95
20 x 24	5.40	6.05
22 x 24	6.20	6.95
24 x 24	7.00	7.85

Finish Symbols and Explanations

Group 1. BJ — Black Japan; MT — Metalac; PC — Prime Coat.
Group 2. Oak — Oak Grain; W — White.

Complete Lists of Sizes and List Prices will be in General Floor Register Lists. Pages 52 and 53.

Order Floor Registers by Floor Opening Size and Number. Order No. 403 by Floor Opening Size.

NOTE — The New Valve Operation and Clear Mesh Features on All No. 400 REGISTERS.

No. 405 U. S. TRUSSTEEL RETURN AIR FACE

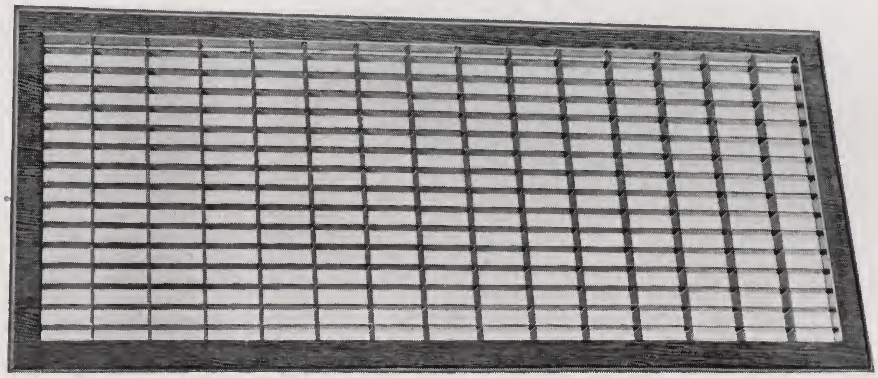
MESH — 5/8 x 1-15/16 Inches — 82% FREE AREA

No. 405 Trussteel Face is constructed of Band Steel Bars which are notched and fitted and pressed into notched bars running the opposite way. This assembled Grid-Core is attached to an angle frame by means of a Patented Attaching Hook at the end of each bar which hook engages neatly and firmly with the Angle Frame.

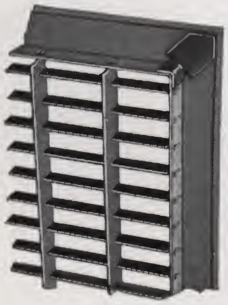
CORNERS OF ANGLE FRAME ARE SEAMLESS AND PERFECT

THIS STYLE and Mesh positively PREVENTS HEELS from entering and does not Sacrifice its Maximum Capacity as do so-called Close-Mesh Styles.

No. 405 FINEST GRID-TYPE FACE



Rear of 405 Showing Strongest Type of Corner Joint



LIST PRICES of No. 405 U. S. TRUSSTEEL FACES

STANDARD SIZES as Recommended for General Practical Purposes. Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association.

No. 405 and CLEAR MESH with no Corner Screw Hole Lugs

Size Duct or Floor Opening	Black Japan Metalac Prime Coat Group 1	Oak White Group 2	Free Area Square Inches	Size of Round Pipe	Gross Weight Each	Size Duct or Floor Opening	Black Japan Metalac Prime Coat Group 1	Oak White Group 2	Free Area Square Inches	Size of Round Pipe	Gross Weight Each
• 4 x 14	$1.40	$1.55	46	. . .	2.9	•14 x 16	$3.10	$3.45	185	14″	6.3
• 6 x 10	1.00	1.10	49	. . .	2.7	14 x 18	3.40	3.80	207	16″	6.8
• 6 x 12	1.20	1.35	59	. . .	3.3	14 x 20	3.70	4.15	230	16″	7.5
• 6 x 14	1.55	1.75	80	. . .	3.5	•14 x 24	4.10	4.60	275	18″	8.8
6 x 24	3.00	3.35	118	12″	4.5	•14 x 30	4.60	5.15	344	20″	10.8
• 6 x 30	3.40	3.80	148	12″	5.5	16 x 16	3.60	4.05	210	16″	7.8
• 8 x 14	1.65	1.85	92	. . .	4	16 x 20	4.00	4.50	262	18″	8.3
• 8 x 24	3.20	3.60	159	12″	5.8	16 x 24	4.40	4.95	315	20″	9.8
• 8 x 30	3.60	4.05	199	14″	6.8	16 x 30	5.50	6.15	394	22″	11.8
•10 x 12	1.70	1.90	99	10″	3.5	18 x 18	4.20	4.70	266	18″	8.3
•10 x 24	3.40	3.80	199	14″	6.8	•18 x 24	4.80	5.40	354	20″	11
•10 x 30	3.75	4.20	256	16″	8	•18 x 30	6.10	6.85	443	22″	13.3
12 x 12	2.20	2.45	120	12″	4.3	20 x 20	5.00	5.60	328	20″	11
•12 x 14	2.50	2.80	146	12″	4.8	20 x 24	5.40	6.05	394	22″	13
•12 x 24	3.75	4.20	236	16″	7.8	•20 x 30	6.70	7.50	492	24″	15.8
•12 x 30	4.00	4.50	295	18″	9.3	24 x 24	7.00	7.85	475	24″	15.5
14 x 14	2.90	3.25	161	14″	5.5	24 x 30	8.80	9.85	590	26″	18.5

Finish Symbols and Explanations

Group 1. BJ — Black Japan; MT — Metalac; PC — Prime Coat.
Group 2. Oak — Oak Grain; W — White.

Order 405 U. S. Trussteel Faces by Floor Opening Size.

Complete Lists of Sizes and List Prices will be in General Lists, Pages 52 and 53.

No. 430 U. S. TRUSSTEEL PIPELESS FURNACE FACES

MESH — 5/8 x 1 15/16 Inches — 82% FREE AREA

No. 430 TRUSSTEEL PIPELESS FURNACE FACE is constructed of Band Steel Bars which are notched and fitted and pressed into notched bars running the opposite way. This assembled Grid-Core is attached to an angle frame by means of a patented Attaching Hook at the end of each bar which hook engages neatly and firmly with the Angle Frame.

CORNERS ARE SEAMLESS AND PERFECT

STANDARD Diameters of Round Collars are attached to bottom of the Faces to fit Round Pipe Connection from the Heating Section of the Pipeless Furnace Unit.

Special Sizes of Round Band Collars may be furnished on Special Order at no Extra Cost.

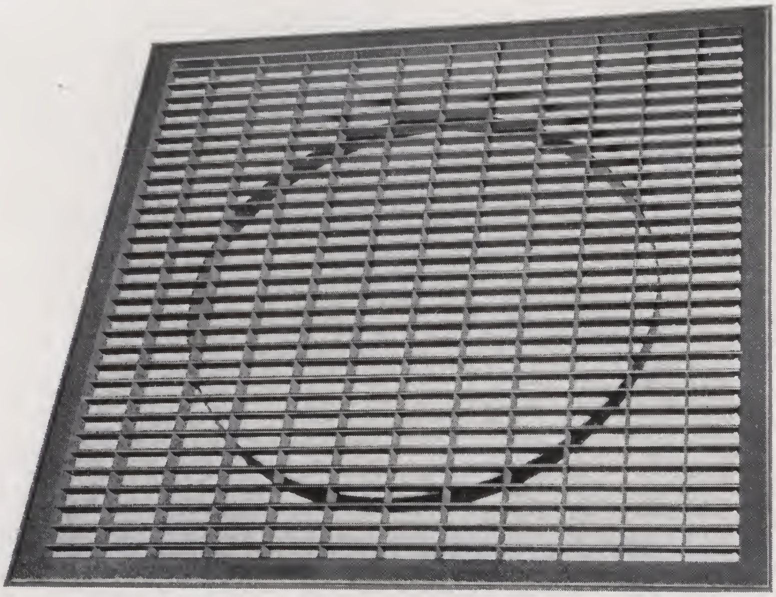
Sets flat on floor like ordinary floor face. Warm-air outlet through ring in center. Cold-air inlet through that section of face outside of ring. **Can be furnished with Pipe-Rings loose if so ordered.**

No. 430

FINEST

AND

STRONGEST



GRID-TYPE

PIPELESS

FURNACE

FACE

LIST PRICES of No. 430 U. S. TRUSSTEEL PIPELESS FURNACE FACES

Floor or Cold Air Return Size	Size of Warm Air Collar	Black Japan Enamel Brown Group 1	High Heat Oak Group 2	Gross Weight Each Style 430	Floor or Cold Air Return Size	Size of Warm Air Collar	Black Japan Enamel Brown Group 1	High Heat Oak Group 2	Gross Weight Each Style 430
20 x 22	14″	$6.15	$6.75	15	32 x 32	24″	$16.60	$18.40	36
22 x 24	16″	7.20	7.95	17.5	34 x 34	26″	19.35	21.45	40
24 x 24	18″	8.05	8.90	18.5	36 x 36	28″	22.05	24.45	46
24 x 28	18″	9.55	10.55	22	40 x 40	30″	30.25	32.75	50
26 x 26	20″	9.90	10.95	22	44 x 44	34″	37.60	40.10	69
28 x 28	20″	12.00	13.30	24	44 x 48	36″	41.00	43.50	78
30 x 30	22″	14.45	16.00	27	48 x 48	38″	43.25	46.50	82
30 x 36	24″	18.85	20.90	35	......	...	.....	.....	....

Each Grating is individually packed in a special Shipping Carton.

Always Specify Floor Opening Size, Diameter of Round Collar and Finish.

Special Attention is called to our Enamel Brown and Oak High Heat Test Finishes which are applied at Higher Temperatures than temperatures to which the Pipeless Faces are exposed when in use.

Finish Symbols and Explanations

Group 1. BJ — Black Japan; EB — Enamel Brown.
Group 2. HHO — High Heat Oak.

No. 360 U. S. ADJUSTABLE CEILING VENTILATOR

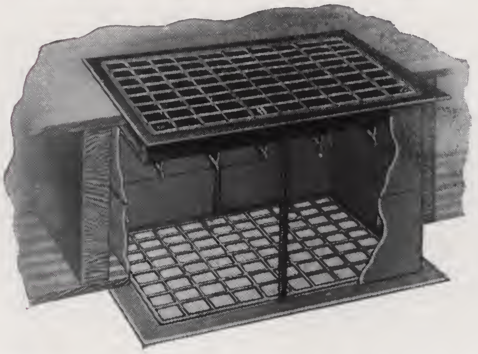
A Complete Package Unit Consisting of a Black Japan Register and a White Face with a telescopic sheet metal Box which adjusts from 6 to 12 inches.

Two Expansion Springs hold the box sections to the proper adjustment.

Designed for Circulating Air between First and Second Floor Rooms.

For use in Structures heated by Stoves, Room Circulators or Pipeless Furnaces or where provisions for second floor heat cannot otherwise be made.

No. 360 U.S. Adjustable Ceiling Ventilator



Floor and Ceiling Opening should be cut ½ inch larger each dimension than Listed Size.

LIST PRICE (Four Production Sizes Only)

Register Body Size	List Each Complete	Gross Weight Each, Lbs.
8 x 10	$3.25	8
9 x 12	4.25	9
10 x 12	4.85	10
12 x 14	7.85	13

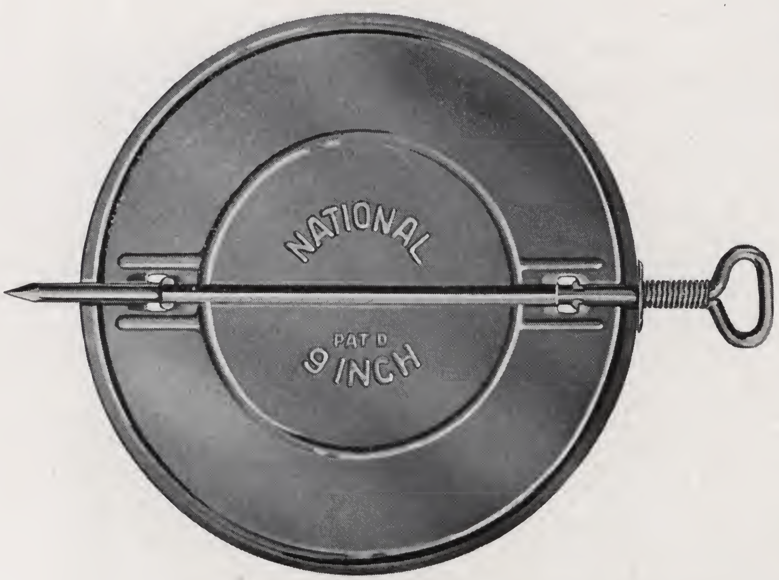
Shipped as Packaged Unit.

U. S. WOOD RETURN AIR FACES

LIST PRICES of Stock Sizes of U. S. Wood Cold-Air Faces

Floor Opening in Inches	U. S. Wood Cold-Air Faces	Area of Air Space in Square Inches	Nearest Size of Round Pipe of Equivalent Area	Floor Opening in Inches	U. S. Wood Cold-Air Faces	Area of Air Space in Square Inches	Nearest Size of Round Pipe of Equivalent Area
6 x 24	$1.00	81	10″	14 x 24	$2.33	188	16″
6 x 30	1.25	101	12″	14 x 30	2.92	235	16″
6 x 36	1.50	121	12″	14 x 40	3.89	314	20″
6 x 40	1.67	134	12″	14 x 50	4.86	392	22″
8 x 24	1.34	108	10″	14 x 60	5.83	470	24″
8 x 30	1.67	134	12″	16 x 20	2.22	179	14″
8 x 36	2.00	161	14″	16 x 24	2.67	215	16″
8 x 40	2.23	179	14″	16 x 30	3.34	269	18″
10 x 24	1.67	134	12″	18 x 24	3.00	242	18″
10 x 30	2.09	168	12″	18 x 30	3.75	303	20″
10 x 36	2.50	202	16″	20 x 24	3.33	269	18″
10 x 40	2.78	224	16″	20 x 28	3.88	314	20″
12 x 18	1.50	121	12″	20 x 30	4.17	336	20″
12 x 20	1.66	135	12″	22 x 28	4.29	345	22″
12 x 24	2.00	161	14″	24 x 24	4.00	323	20″
12 x 30	2.50	202	14″	24 x 30	5.00	403	22″
12 x 40	3.33	269	18″	24 x 36	6.00	484	24″
12 x 50	4.17	336	20″	26 x 30	5.42	437	24″
12 x 60	5.00	403	22″	28 x 30	5.84	471	24″
14 x 20	1.94	157	14″	30 x 30	6.25	504	26″
14 x 22	2.13	173	14″	30 x 36	7.50	605	28″

NATIONAL STEEL WARM AIR DAMPERS



Blades are Strongly Embossed at all necessary points to create Greatest Rigidity and Strength. The Tension Compression Spring is made with a Special Wide Base that holds the Handle Washer tight to the outside of Round Pipe.

LIST PRICES

Size	Dozen	Net Wt. Per Doz., Lbs.
6″	$1.60	5
7″	1.60	5
8″	2.20	7
9″	2.60	8
10″	2.80	9
12″	3.50	13
14″	5.00	16

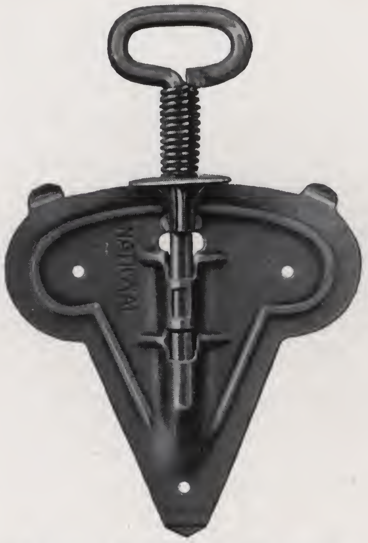
Discounts on above shown on Current Discount Sheet.

NATIONAL NO-RIVET DAMPER CLIPS AND TIPS

NATIONAL NO-RIVET (OR RIVET) DAMPER CLIPS Can Be Attached Either Without or With Rivets.

Positive Lock to Prevent Handle from Turning Loose

A Specially Constructed Spring with a Wide Base which stabilizes and reinforces the washer thus keeping the Clip completely in the correct diametrical position.



National No-Rivet or Rivet Clip

Notice the rivet holes, also the lugs for clinching.

Front View Assembled

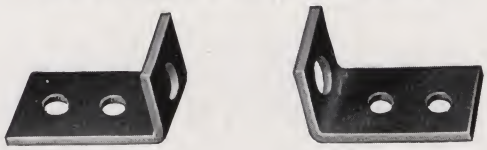
Rear View Assembled

National No-Rivet or Rivet Tips

Special
Quantity Prices
Quoted on Application

THEY WILL NOT "TWIST OUT" Prices on Clips and Tips shown on Current Discount Sheet.

ELBOW LUGS FOR ADJUSTABLE ELBOWS



Rivet Holes $\frac{5}{32}$″ Spaced ½″ on Center.

Bolt Holes $\frac{7}{32}$″.

Prices on Elbow Lugs on Application.

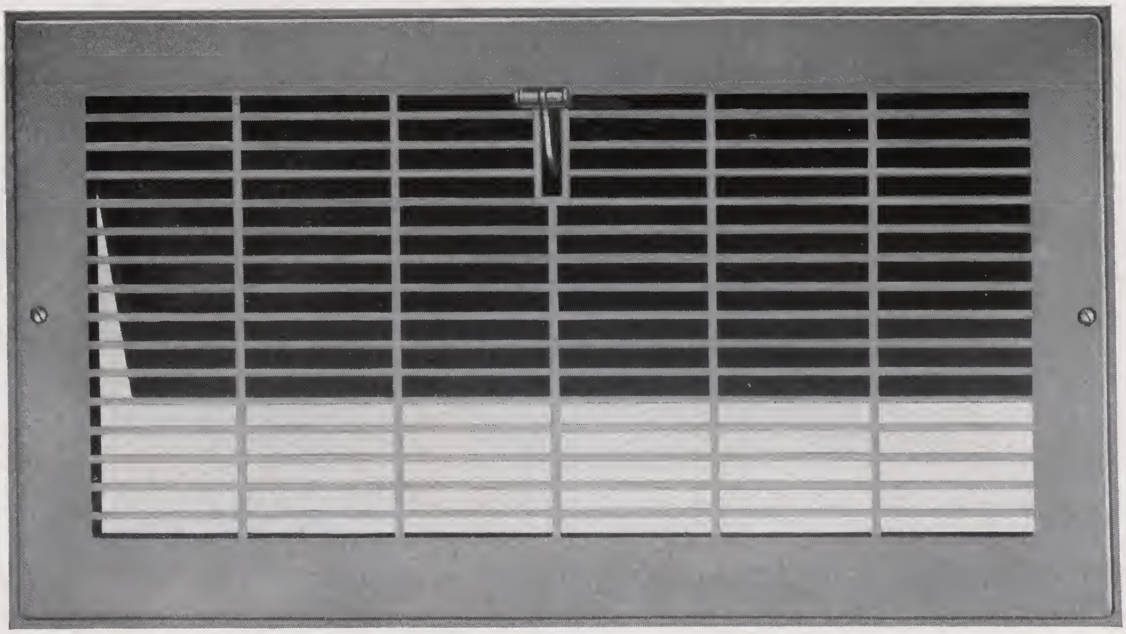
DESIGN No. 103 U. S. AIR-CONDITIONING REGISTER — Single Valve

Furnished Less Installation Frame — Order Frames Separate

PERFORATED HORIZONTAL OBLONG LATTICE — SINGLE VALVE

The Very Narrow Fret-Work Gives Maximum Free Area

This Design with Horizontal Oblong Mesh Conceals Duct or Head to the Utmost



Rubber Gaskets are Standard Equipment on all Sidewall Styles — Not Standard Equipment on Grilles

The New 103 Line is offered as a solution to an Air-Conditioning Need for certain types of Installations where positive Directional Flow, or control of Directional Flow is not essential.

A single-valve line that has all of the Qualities of other Higher cost lines excepting that it is a plain stamped steel construction and not Directional Flow.

While we present this as the No. 103 Line the STYLE 103 principally designates the Design — for definite style numbers note the following detailed explanations and study illustrative data on opposite page. List Prices are also on opposite page.

Style No. 103 — Even on Special Orders — cannot be produced in Heights exceeding 10 inches or Widths greater than 30 inches.

Style 103 A-C Registers and Intakes are furnished Less frames. Frames should be ordered separate according to Stackhead Size and Frame Number.

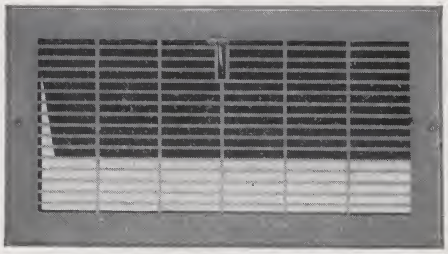
READ the Following EXPLANATION of STYLE NUMBERS Very Carefully

No. 103 U. S. Air-Conditioning Register	Sidewall — No Frame
No. 109 U. S. Air-Conditioning Register (One-Piece)	Baseboard — ⅞-Inch — No Frame
No. 112 U. S. Air-Conditioning Register (Two-Piece)	Baseboard—With 102-B Frame—⅞-Inch
No. 115 U. S. Air-Conditioning Intake	Baseboard — ⅞-Inch Extension
No. 118 U. S. Air-Conditioning Intake	Sidewall (Flat) Intake

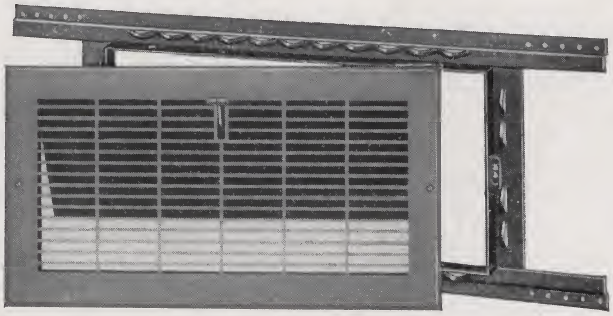
Order by Correct Style Number, Stackhead, Size and Finish — AVOID ERRORS

Complete Production and Standardized Sizes, List Prices and Illustrations on Opposite Page.

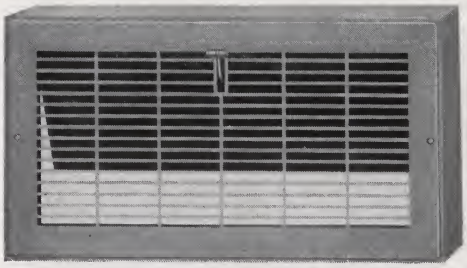
DESIGN No. 103 U. S. AIR-CONDITIONING REGISTER — Single Valve



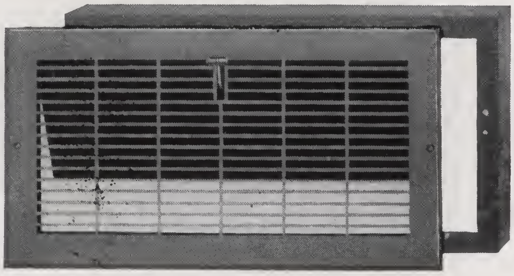
No. 103 — Sidewall. Furnished Less Frame. Order Installation Frames separate.



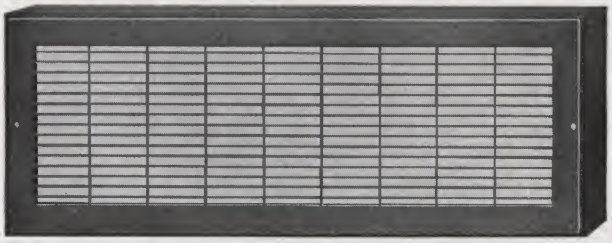
No. 103 — Sidewall and 125-S Studding Frame (Sidewall.) May be used with 125-B Studding Frame (Baseboard).



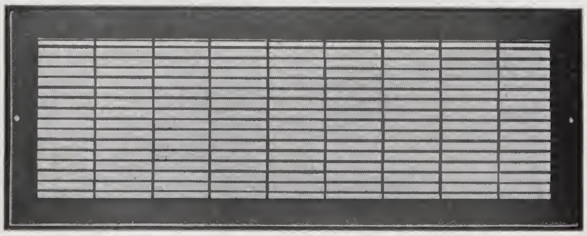
No. 109 — Baseboard — One-Piece. Furnished Less Frame. Order Installation Frames separate.



No. 112 — With 102-B ⅞-inch Flange-Over Baseboard Frame.



No. 115 — Baseboard Intake ⅞-inch Flange.



No. 118 — Flat Intake.

On all Baseboard Styles Stack Head Sets ⅝ Inch above Finished Floor.

LIST PRICES — Nos. 103 — 109 — 112 — 115 — 118

Size	103		109		112		115		118		Installation Frames	
	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	101-F	125-S 125-B 102-B
8 x 4	$1.10	$1.25	$1.25	$1.40	$1.65	$1.80	$0.75	$0.90	$0.60	$0.70	$0.20	$0.55
8 x 5	1.15	1.30	1.30	1.45	1.75	1.90	.80	.95	.65	.80	.20	.60
8 x 6	1.25	1.40	1.40	1.55	1.90	2.05	.85	1.00	.70	.85	.20	.65
10 x 4	•1.15	•1.30	1.30	1.45	1.75	1.90	.80	.95	.65	.80	.20	.60
10 x 5	1.20	1.40	1.40	1.55	1.85	2.05	.85	1.00	.70	.85	.20	.65
10 x 6	•1.25	•1.45	•1.45	•1.60	•1.90	•2.10	• .90	•1.05	• .70	• .90	.20	.65
10 x 8	1.40	1.55	1.55	1.75	2.10	2.35	.95	1.15	.80	.95	.25	.70
12 x 4	•1.25	•1.40	1.40	1.55	1.90	2.05	.85	1.00	.70	.85	.20	.65
12 x 5	1.35	1.50	1.50	1.70	2.05	2.20	.90	1.10	.75	.90	.25	.70
12 x 6	•1.40	•1.55	•1.55	•1.75	•2.10	•2.25	• .95	•1.15	• .80	• .95	.25	.70
12 x 8	1.50	1.70	1.70	1.90	2.30	2.50	1.05	1.25	.85	1.05	.25	.80
14 x 4	•1.25	•1.45	1.45	1.60	1.90	2.10	.90	1.05	.70	.90	.20	.65
14 x 5	1.40	1.55	1.55	1.75	2.10	2.25	.95	1.15	.80	.95	.25	.70
14 x 6	•1.50	•1.70	•1.70	•1.90	•2.30	•2.40	•1.05	•1.25	• .85	•1.05	.25	.80
14 x 8	1.60	1.80	1.80	2.05	2.45	2.65	1.10	1.35	.90	1.10	.30	.85
24 x 4	1.75	1.95	1.95	2.20	2.65	2.85	1.20	1.45	1.00	1.20	.30	.90
24 x 5	1.85	2.10	2.10	2.30	2.80	2.95	1.30	1.50	1.05	1.30	.30	.95
24 x 6	2.20	2.45	2.45	2.75	3.35	3.60	•1.50	•1.80	•1.25	•1.50	.40	1.15
24 x 8	2.55	2.85	2.85	3.25	3.85	4.15	1.75	2.10	1.45	1.75	.45	1.30
30 x 4	2.15	2.45	2.45	2.70	3.25	3.55	1.50	1.75	1.20	1.50	.35	1.10
30 x 5	2.30	2.60	2.60	2.90	3.50	3.80	1.60	1.90	1.30	1.60	.40	1.20
30 x 6	2.65	3.00	3.00	3.35	4.05	4.40	•1.85	•2.20	•1.50	•1.85	.45	1.40
30 x 8	3.00	3.40	3.40	3.75	4.55	4.95	2.10	2.45	1.70	2.10	.50	1.55

Sizes preceded by • are Standardized Sizes as authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise adherence to Standardized Sizes.

Finish Symbols and Explanation

Group 1. MT — Metalac; PC — Prime Coat. Group 2. W — White; IV — Ivory.

Plated Finishes are not Listed but may be available at a later date.

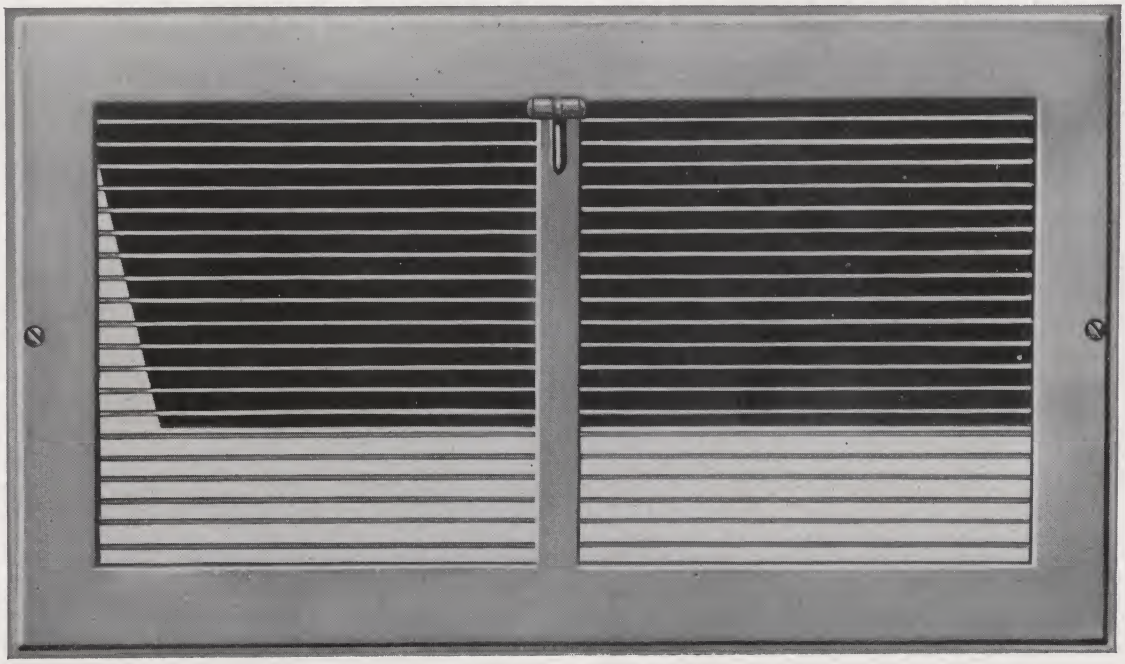
DESIGN No. 153 U. S. AIR-CONDITIONING REGISTER — Single Valve

Furnished Less Installation Frame — Order Frames Separate

Pioneered the Construction of This Type of Grille Production and Leads as the Outstanding Low-Cost

SINGLE-VALVE DIRECTIONAL-FLOW REGISTER

No. 153 — Straight Flow



Spacing of Bars, ¼ inch clear.
Width of Borders, 1⅛ inch.

Equipped with
Sealing Gaskets.

Louver-Bars obstruct
Interior Visibility but
afford Maximum Air-Flow.

Rubber Gaskets are Standard Equipment on all Sidewall Styles — Not Standard Equipment on Grilles

Grille-Bars may be set with Setting Wrench. Standard Setting is Straight Flow.
Standard Over-all Size is 1½ Inches over Nominal Duct Size.
Actual Grille Opening Size is ⅞ Inch under Nominal Duct Size.
The No. 153 Line is a quality Register and very competitively priced.
Should be ordered in Production Listed Sizes — No sizes furnished with Single Valve (153) Larger than 30 Inches wide or 8 Inches high.

READ the Following EXPLANATION of STYLE NUMBERS Very Carefully

Horizontal-Bar Styles

No. 153 U. S. Air-Conditioning Register	Sidewall — No Frame
No. 165 U. S. Air-Conditioning Register	Baseboard — ⅞-Inch — No Frame
No. 170 U. S. Air-Conditioning Register (Two-Piece)	Baseboard—With 102-B Frame—⅞-Inch
No. 175 U. S. Air-Conditioning Intake	Baseboard — ⅞-Inch Extension
No. 177 U. S. Air-Conditioning Intake	Sidewall — (Flat) Intake

Vertical-Bar Styles

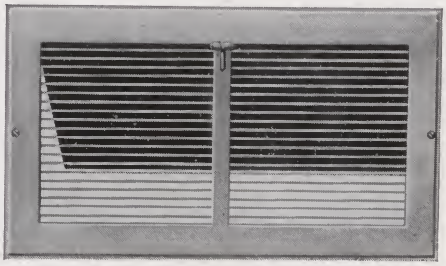
No. 156 U. S. A-C Register — Vertical Bar — 22° Right and Left Grille Bar Setting	Sidewall — No Frame
No. 167 U. S. A-C Register — Vertical Bar — 22° Right and Left Grille Bar Setting	Baseboard (One-Piece) — No Frame
No. 172 U. S. A-C Register — Vertical Bar — 22° Right and Left Grille Bar Setting	Baseboard with 102-B Frame—⅞-Inch
No. 176 U. S. A-C Intake — Vertical Bar — 22° Right and Left Grille Bar Setting	Baseboard ⅞-Inch Extension
No. 178 U. S. A-C Intake — Vertical Bar — 22° Right and Left Grille Bar Setting	Sidewall (or Flat) Intake

Order by Catalog Style Number Stackhead Size and Finish — Avoid Errors.

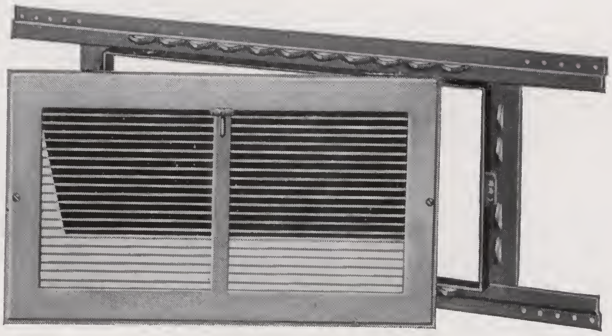
Complete Production and Standardized Sizes, List Prices and Illustrations on Opposite Page.

No. 153 U. S. AIR-CONDITIONING REGISTER — Single Valve

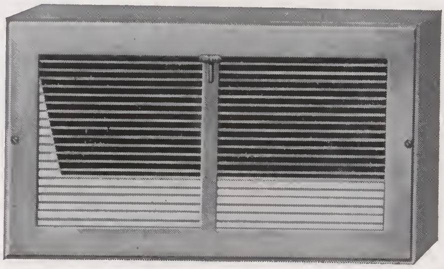
Furnished Less Frames — Order Frames Separate



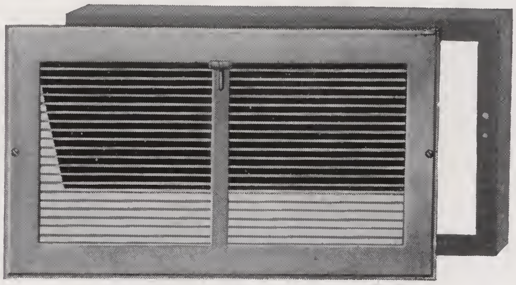
No. 153 — Sidewall — Furnished Less Frames. Order Installation Frames Separate.



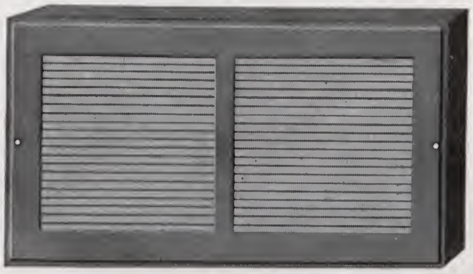
No. 153—Sidewall and 125-S Studding Frame (Sidewall). May be used with 125-B Studding Frame (Baseboard).



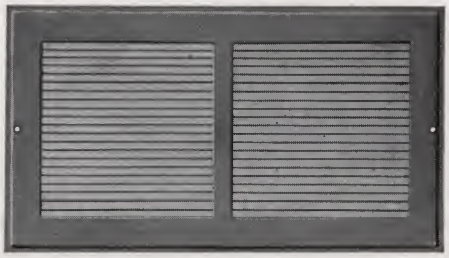
No. 165 — Baseboard — One-Piece — Furnished Less Frame. Order Installation Frames Separate.



No. 170 — Straight Flow with Flange-over 102-B ⅞ inch Baseboard Frame.



No. 175 — ⅞ inch Baseboard Vent.



No. 177 — Flat Sidewall Vent.

On all Baseboard Styles Stack Head Sets ⅝ Inch above Finished Floor

LIST PRICES — 153-156, 170-172, 165-167, 175-177

Size	153-156		165-167		170-172		175		177		Installation Frames	
	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	101-F	125-S 125-B 102-B
8 x 4	$1.30	$1.45	$1.40	$1.55	$1.85	$2.00	$0.90	$1.05	$0.80	$0.95	$0.20	$0.55
8 x 5	1.35	1.50	1.45	1.60	1.95	2.10	.95	1.10	.85	1.00	.20	.60
8 x 6	1.45	1.60	1.55	1.70	2.10	2.25	1.00	1.15	.90	1.05	.20	.65
10 x 4	•1.35	•1.50	1.45	1.60	1.95	2.10	.95	1.10	.85	1.00	.20	.60
10 x 5	1.45	1.60	1.55	1.70	2.10	2.25	1.00	1.15	.90	1.05	.20	.65
10 x 6	•1.50	•1.65	•1.60	•1.75	•2.15	•2.30	•1.05	•1.20	• .95	•1.10	.20	.65
10 x 8	1.60	1.80	1.70	1.90	2.30	2.50	1.10	1.30	1.00	1.20	.25	.70
12 x 4	•1.45	•1.60	1.55	1.70	2.10	2.25	1.00	1.15	.90	1.05	.20	.65
12 x 5	1.60	1.75	1.70	1.85	2.30	2.45	1.10	1.25	1.00	1.15	.25	.70
12 x 6	•1.65	•1.85	•1.75	•1.95	•2.35	•2.55	•1.15	•1.35	•1.05	•1.25	.25	.70
12 x 8	1.75	1.95	1.90	2.10	2.55	2.75	1.25	1.45	1.10	1.30	.25	.80
14 x 4	•1.50	•1.65	1.60	1.75	2.15	2.30	1.05	1.20	.95	1.10	.20	.65
14 x 5	1.65	1.85	1.75	1.95	2.35	2.55	1.15	1.35	1.05	1.25	.25	.70
14 x 6	•1.75	•1.95	•1.90	•2.10	•2.55	•2.75	•1.25	•1.45	•1.10	•1.30	.25	.80
14 x 8	1.90	2.10	2.05	2.25	2.75	2.95	1.35	1.55	1.20	1.40	.30	.85
24 x 4	2.05	2.30	2.20	2.45	2.95	3.20	1.45	1.70	1.30	1.55	.30	.90
24 x 5	2.15	2.40	2.30	2.55	3.10	3.35	1.50	1.75	1.35	1.60	.30	.95
24 x 6	2.55	2.85	2.75	3.05	3.70	4.00	•1.80	•2.10	•1.60	•1.90	.40	1.15
24 x 8	2.95	3.30	3.15	3.50	4.25	4.60	2.05	2.40	1.85	2.20	.45	1.30
30 x 4	2.50	2.80	2.70	3.00	3.60	3.90	1.75	2.05	1.55	1.85	.35	1.10
30 x 5	2.70	3.00	2.90	3.20	3.90	4.20	1.90	2.20	1.70	2.00	.40	1.20
30 x 6	3.10	3.45	3.35	3.70	4.50	4.85	•2.20	•2.55	•1.95	•2.30	.45	1.40
30 x 8	3.50	3.90	3.75	4.15	5.05	5.45	2.45	2.85	2.20	2.60	.50	1.55

Sizes preceded by • are Standardized Sizes as authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise adherence to Standardized Sizes.

Finish Symbols and Explanations

Group 1. MT — Metalac; PC — Prime Coat. Group 2. W — White; IV — Ivory.

Plated Finishes are not Listed but may be available at a Later Date.

PROOF THAT No. 256 and No. 249 MULTIPLE-VALVE AIR-CONDITIONING REGISTERS EXCEL

IN PERFORMANCE over other types of Turning Blade and Multi-Blade Registers. Superior in every detail.

The full surface of Grille functions with Air-Flow. Air-Flow is not cut down at top of the Grille.

Multiple-Valves deflect Air evenly through Grille from bottom to the Extreme Top of Grille Opening.

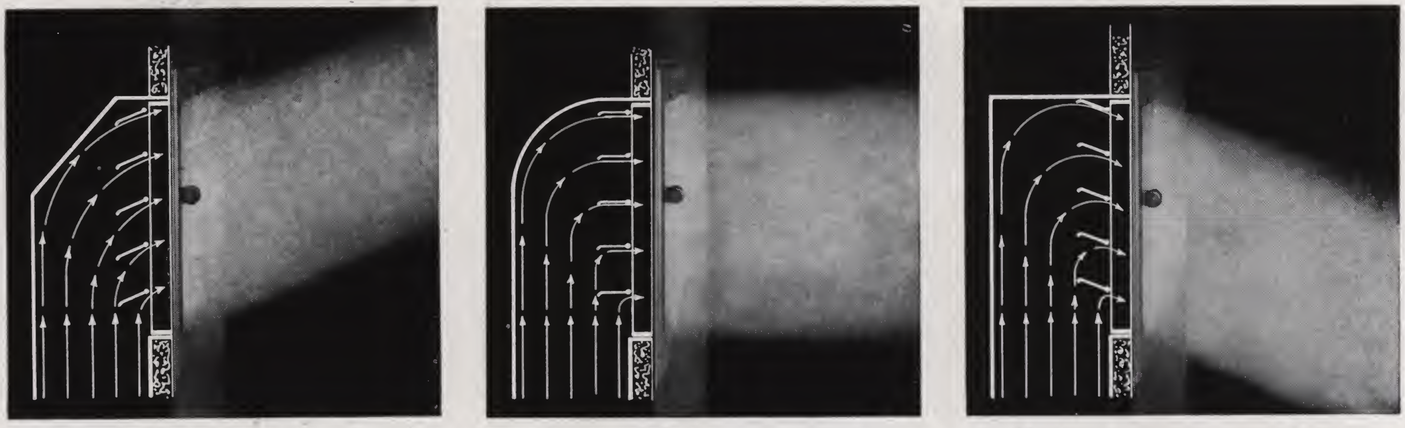
Air-Flow Distribution through Grille is Positively Equal at any Valve-Setting.

Register may be partly closed in the Usual Way, without completely closing valves.

May be used with ANY STYLE of Stackhead — Cut-off back — Round Back or Square Back Head.

A Register any owner knows how to operate and adjust to the desired Air-Flow and Deflection.

Actual Photographs of Airstream with Cross Section Showing Valve-Settings



Multiple-Valves set for 22° Up-Flow. Up-Flow may be increased to any Greater Degree of Up-Flow if required.

Multiple-Valves set for Straight Flow through Register Grille. Note Air-Flow over ENTIRE GRILLE SURFACE.

Multiple-Valves set for 22° Down-Flow. Any Greater Down-Flow may be had to 45°.

May be installed in CUT-OFF BACK — ROUND BACK or SQUARE BACK REGISTER HEADS.

The Operator Changes Air-Flow to ANY DESIRED DEFLECTION with FULL GRILLE COVERAGE.

Actual Reproductions of the Functioning of the Nos. 256 and 249 Duo-Deflecting Air-Conditioning Register Lines

(Reproduced From Actual Smoke Tests)

For WARM AIR-CONDITIONING INSTALLATIONS LEFT COLUMN SETTINGS ARE ADVISED. For AIR-COOLED ENGINEERED CONDITIONING SYSTEMS RIGHT COLUMN SHOWS SETTINGS WHICH ARE ADVISED WITH UPWARD AIR-FLOW.

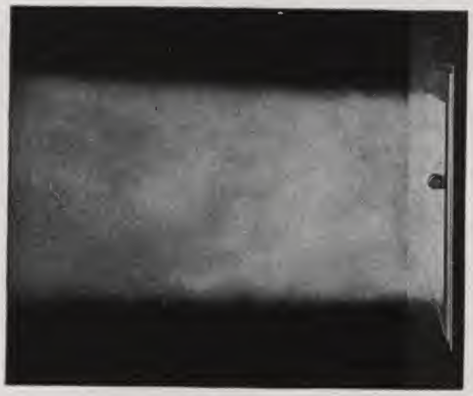


Fig. 1 — With Valves set for Straight Flow. Note Definite Complete Face Coverage by Smoke-Stream.

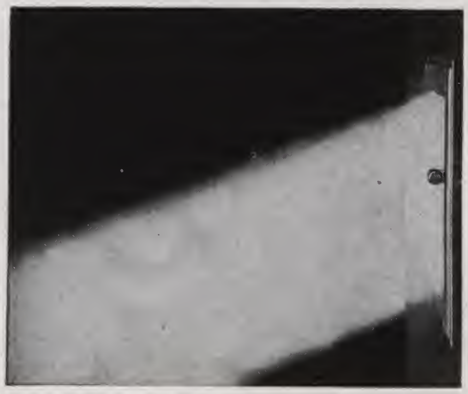


Fig. 2 — With Valves set for 22° Down-Flow to Prevent Sweeping of Ceilings with Direct Warm Air Current. Also Places Heat in Desired Locations.

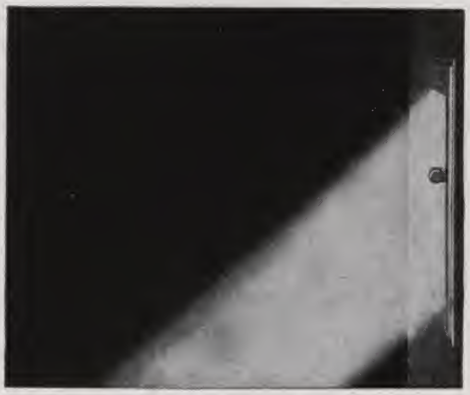


Fig. 3 — With Valves for 45° Down-Flow — advisable and convenient to High Settings in unusually High Sidewalls for proper placement of heat.

These
OFFICIAL
REPRODUCTIONS
Prove the FULL
FACE-COVERAGE
and
DIRECTIONAL
AIR-FLOW
FEATURES
of the
NO. 256 and NO. 249
LINES OF
U. S.
AIR-CONDITIONING
REGISTERS

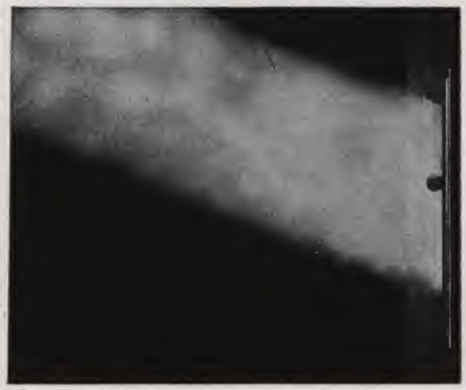


Fig. 4 — With Valves set for 22° upward Flow of Air where required.

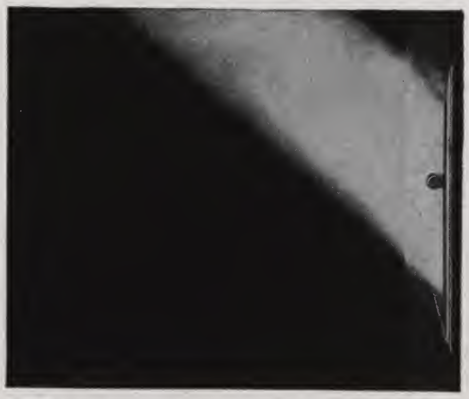
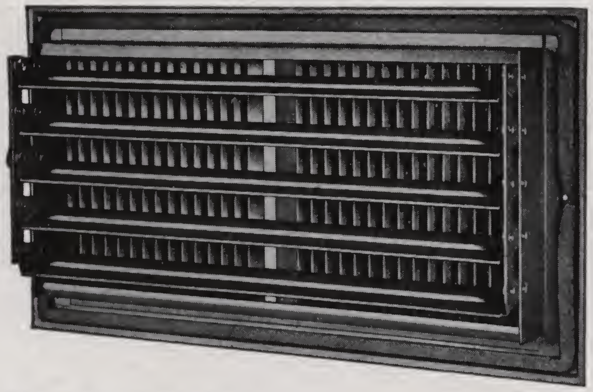


Fig. 5—FOR AIR-COOLING THIS SETTING HAS NO EQUAL. AIR-THROW can be furnished UPWARD to meet any Cooling Engineered Requirement.

REAR VIEW OF STYLES 256 and 249 U. S. AIR-CONDITIONING REGISTER — Four Way Flow



With operating lever any air travel from the register may be had from 45 degree down-flow to any desired degree of upward air-throw.

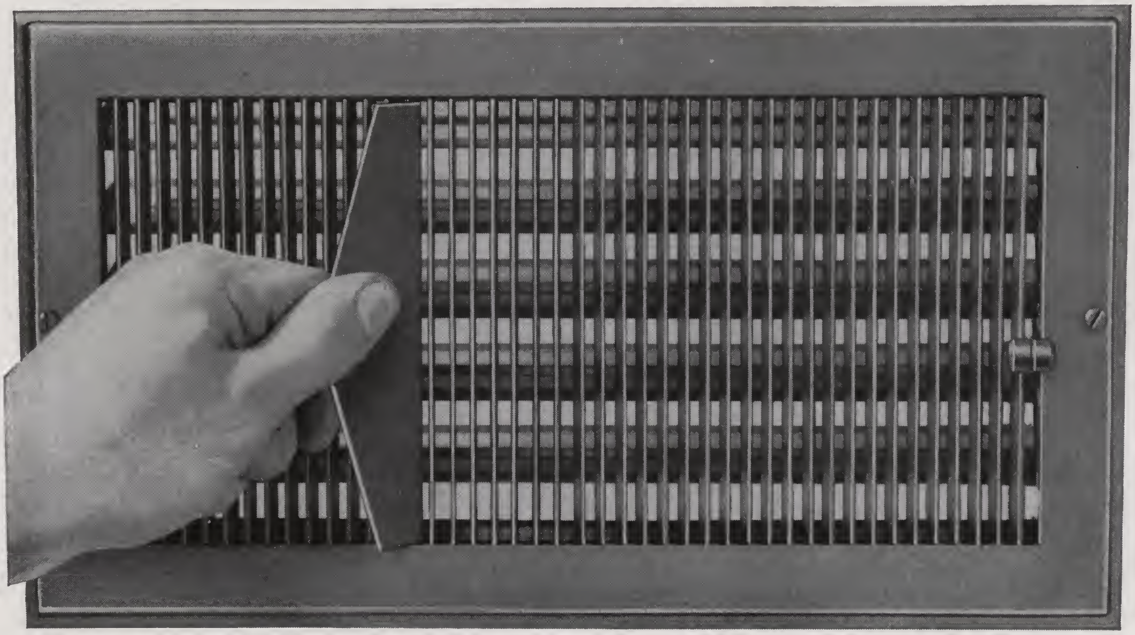
No. 256 — Right, Left or Two-Way Side Flow by Setting Grille-Bars with Setting Wrench.
No. 249 — Right, Left or Two-Way Side Flow by Adjusting Grille-Bars with Adjusting Key.

DESIGN No. 256 U. S. AIR-CONDITIONING REGISTER—Multiple Valves

Furnished Less Installation Frames — Order Frames Separate

Duo-Deflection Four-Way Flow Adjustment

Grille Bars may be set with Setting Wrench to any Side Flow Deflection required. Multiple-Valves arranged for complete Face-Coverage by Air-Flow, and Up-Flow to Down-Flow adjustment is controlled by Knob-Operator at side of Grille opening. Furnishes Even Distribution of Air-Flow over Entire Grille Area. Minimum Resistance. Most Efficient of Multiple-Valve Registers.



Rubber Gaskets are Standard Equipment on all Sidewall Styles. Not Standard Equipment on Grilles.

Reference is made to the No. 256 Line, but this Line actually includes Three Styles which we will tabulate and explain below as Numbers 256, 267 and 272.

Their construction is fundamentally sound and mechanically perfect. Consists of a properly constructed **Grille** attached to an easily and powerfully controlled **Multiple-Valve** assembly — all of "U. S." Engineering **Origin.**

May be used in Any Location and in Any Style of **Duct** or Head.

Grille Bars are Spaced to give four openings to the Inch.

Design No. 256 A-C Register and Design No. 178 A-C Grille produced in Standard Listed Sizes on opposite Page — **also Special** to Order — in any Larger Sizes of which figures 2 or 5 are common multiples in Height and figure 2 a common multiple in width.

No. 256 A-C Registers and Intakes are furnished Less Frames. Frames should be ordered Separate — according to **Stackhead** Sizes and Frame Number.

READ the Following EXPLANATION of STYLE NUMBERS Very Carefully

No. 256 U. S. Air-Conditioning Register	Sidewall — No Frame
No. 267 U. S. Air-Conditioning Register (One-Piece)	Baseboard — ⅞-Inch — No Frame
No. 272 U. S. Air-Conditioning Register (Two-Piece)	Baseboard (with 102-B Frame) (⅞-Inch)
No. 176 U. S. Air-Conditioning Intake	Baseboard — ⅞-Inch Extension
No. 178 U. S. Air-Conditioning Intake	Sidewall (Flat) Intake

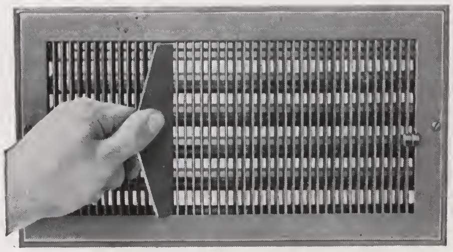
Order by Correct STYLE NUMBER, STACKHEAD SIZE and FINISH. AVOID ERRORS.

Complete Production and Standardized Sizes, List Prices and Illustrations on opposite Page.

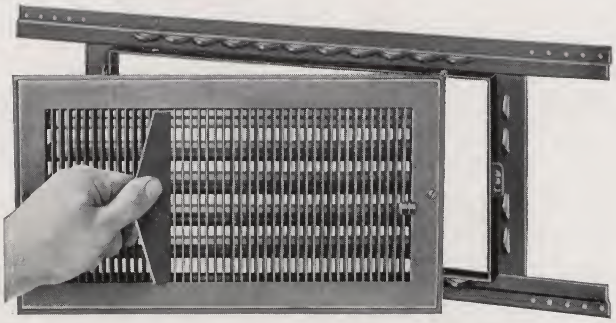
DESIGN No. 256 U. S. AIR-CONDITIONING REGISTER—Multiple Valve

Use Style Numbers Carefully and Avoid Errors

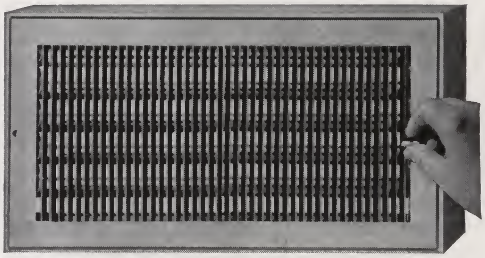
Factory-Set Deflection When Shipped is 22° Right and Left



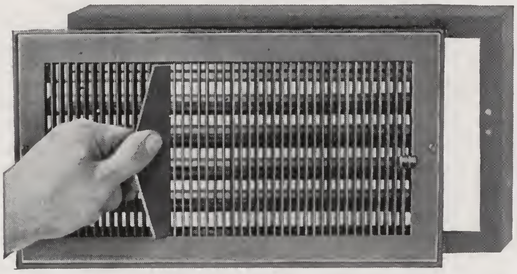
No. 256 — Sidewall. Furnished Less Frame. Order Installation Frame Separate.



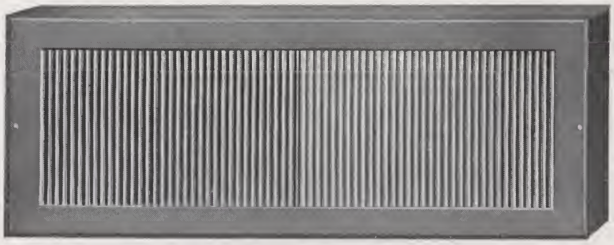
No. 256 — Sidewall and 125-S Studding Frame for Sidewall with 125-B Stud Frame for Baseboard. Order Frames separate.



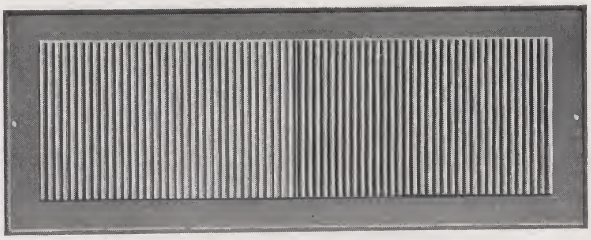
No. 267 — One-piece Baseboard Furnished Less Frame. Order Installation Frame Separate.



No. 272 — Two-piece Baseboard with 102-B ⅞ inch Baseboard Flange-Over Frame.



No. 176 — Baseboard Vent ⅞ inch Flange.



No. 178 — Flat Vent Sidewall.

On all Baseboard Styles Stack Head Sets ⅝ Inch above Finished Floor

LIST PRICE — Nos. 256 — 267 — 272 — 176 — 178

Size	256		267		272		176		178		Installation Frames	
	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	101-F	125-S 125-B 102-B
8 x 4	$1.75	$1.90	$1.85	$2.00	$2.30	$2.45	$0.90	$1.05	$0.80	$0.95	$0.20	$0.55
8 x 5	1.85	2.00	1.95	2.10	2.45	2.60	.95	1.10	.85	1.00	.20	.60
8 x 6	1.95	2.10	2.05	2.20	2.60	2.75	1.00	1.15	.90	1.05	.20	.65
10 x 4	•1.85	•2.00	1.95	2.10	2.45	2.60	.95	1.10	.85	1.00	.20	.60
10 x 5	1.95	2.10	2.05	2.20	2.60	2.75	1.00	1.15	.90	1.05	.20	.65
10 x 6	•2.05	•2.20	•2.15	•2.30	•2.70	•2.85	•1.05	•1.20	• .95	•1.10	.20	.65
10 x 8	2.20	2.40	2.30	2.50	2.90	3.10	1.10	1.30	1.00	1.20	.25	.70
12 x 4	•1.95	•2.10	2.05	2.20	2.60	2.75	1.00	1.15	.90	1.05	.20	.65
12 x 5	2.15	2.30	2.25	2.40	2.85	3.00	1.10	1.25	1.00	1.15	.25	.70
12 x 6	•2.25	•2.45	•2.35	•2.55	•2.95	•3.15	•1.15	•1.35	•1.05	•1.25	.25	.70
12 x 8	2.40	2.60	2.55	2.75	3.20	3.40	1.25	1.45	1.10	1.30	.25	.80
14 x 4	•2.05	•2.20	2.15	2.30	2.70	2.85	1.05	1.20	.95	1.10	.20	.65
14 x 5	2.25	2.45	2.35	2.55	2.95	3.15	1.15	1.35	1.05	1.25	.25	.70
14 x 6	•2.40	•2.60	•2.55	•2.75	•3.20	•3.40	•1.25	•1.45	•1.10	•1.30	.25	.80
14 x 8	2.60	2.80	2.75	2.95	3.45	3.65	1.35	1.55	1.20	1.40	.30	.85
24 x 4	2.80	3.05	2.95	3.20	3.70	3.95	1.45	1.70	1.30	1.55	.30	.90
24 x 5	2.95	3.20	3.10	3.35	3.90	4.15	1.50	1.75	1.35	1.60	.30	.95
24 x 6	3.50	3.80	3.70	4.00	4.65	4.95	•1.80	•2.10	•1.60	•1.90	.40	1.15
24 x 8	4.10	4.45	4.30	4.65	5.40	5.75	2.05	2.40	1.85	2.20	.45	1.30
30 x 4	3.40	3.70	3.60	3.90	4.40	4.70	1.75	2.05	1.55	1.85	.35	1.10
30 x 5	3.70	4.00	3.90	4.20	4.90	5.20	1.90	2.20	1.70	2.00	.40	1.20
30 x 6	4.25	4.60	4.50	4.85	5.65	6.00	•2.20	•2.55	•1.95	•2.30	.45	1.40
30 x 8	4.80	5.20	5.05	5.45	6.35	6.75	2.45	2.85	2.20	2.60	.50	1.55

Sizes Preceded by ● are Standardized Sizes Authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently Advise Adherence to Standardized Sizes.

Finish Symbols and Explanations

Group 1. MT — Metalac; PC — Prime Coat.
Group 2. W — White IV — Ivory.

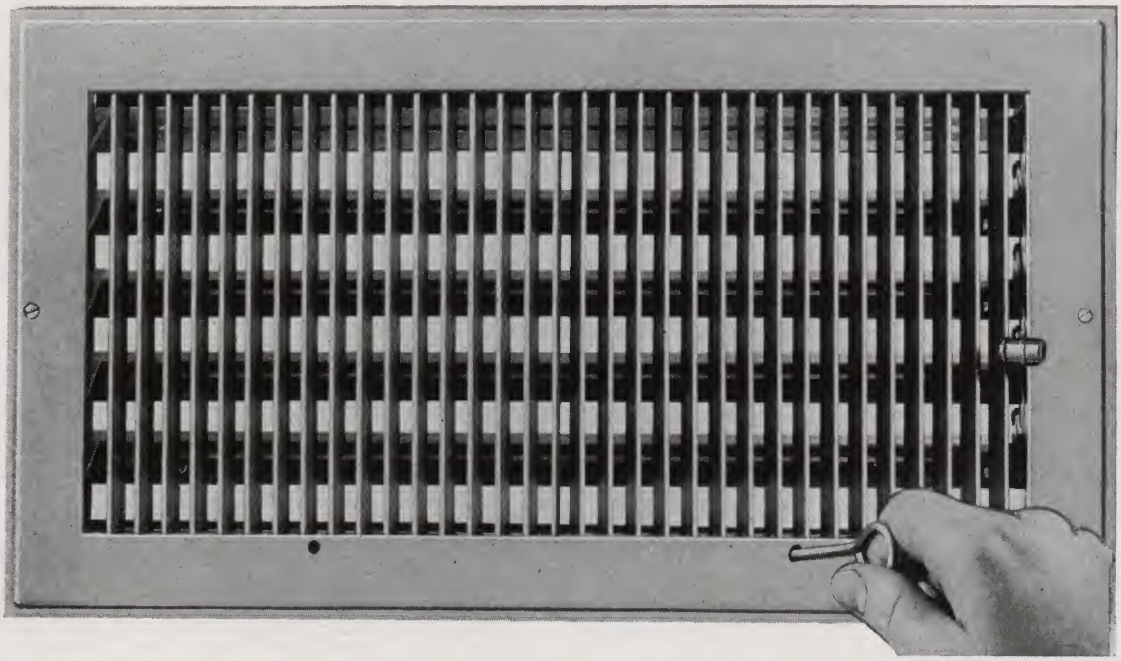
Plated Finishes are not Listed but may be available at a Later Date.

DESIGN No. 249 U. S. AIR-CONDITIONING REGISTER—Multiple Valves

Furnished Less Installation Frames — Order Frames Separate

Vertical Adjustable Grille Bars — Horizontal Multiple Back Valves Render Four-Way Adjustment of Air Flow. Guaranteed Full Grille Coverage of Air Flow over Entire Effective Grille Area.

Key-Pin Operator Adjusts Grille-Bars for Side Flow — 45° Deflection.
Knob-Operator at Side of Grille Adjusts Air-Flow to Any Setting Up or Down Flow.
Furnishes Even Distribution of Air-Flow over Entire Grille Area.
Minimum Resistance. Most Efficient of Multiple Valve Registers.



Rubber Gaskets are Standard Equipment on all Sidewall Styles. Not Standard Equipment on Grilles.

THE NO. 249 LINE actually consists of several other Style Numbers which are built up from the 249 which we will describe briefly in the schedule below.

We guarantee the No. 249 Line to do everything that can be done in Air-Delivery Performance by Any Multiple-Valve Register made. Its construction is based on Sound Mechanical Principles of Manufacture.

Grille-Bars are spaced three openings to the Inch.

Standard Adjustment of Grille-Bars — Residential Sizes — half in each Group.

Residential Sizes Listed on opposite Page. Commercial Sizes in Commercial Section in sizes of which figures 2 and 5 are common multiples in Height and figure 2 a common multiple in width.

STYLE 249 A-C Registers and Grilles are furnished Less Frames. Frames should be ordered separate — according to Stackhead or Duct Sizes and Frame Number.

READ the Following EXPLANATION of STYLE NUMBERS Very Carefully

No. 249	U. S. Air-Conditioning Register	Sidewall — No Frame
No. 252	U. S. Air-Conditioning Register (One-Piece)	Baseboard — ⅞-Inch — No Frame
No. 251	U. S. Air-Conditioning Register (Two-Piece)	Baseboard (with 102-B Frame—⅞-Inch)
No. 1152	U. S. Air-Conditioning Intake	Baseboard — ⅞-Inch Extension
No. 1149	U. S. Air-Conditioning Intake	Sidewall (Flat) Intake

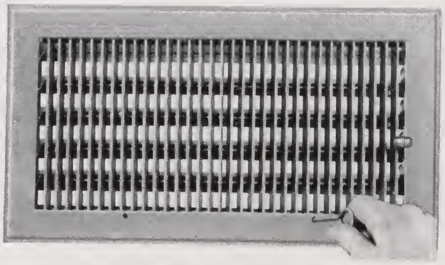
Order by Correct STYLE NUMBER, STACKHEAD SIZE and FINISH — AVOID ERRORS.

Complete Production and Standardized Residential Sizes, List Prices and Illustrations on opposite Page.

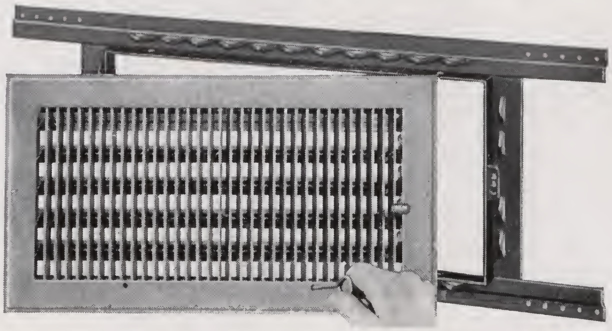
DESIGN No. 249 U. S. AIR-CONDITIONING REGISTER — Multiple-Valves

Use STYLE NUMBERS Carefully and AVOID ERRORS

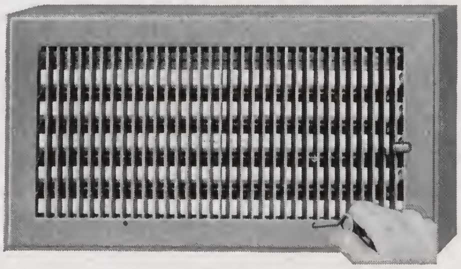
Special Unlisted Sizes are made Special to order in sizes that Die Equipment permits



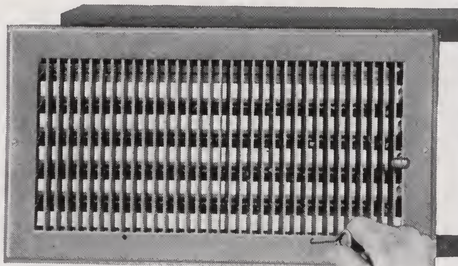
No. 249 — Sidewall — Furnished Less Frame. Order Installation Frame separate.



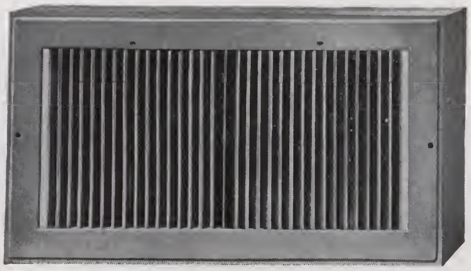
No. 249 — Sidewall with 125-S Stud-Frame for Sidewall. With 125-B Stud Frame for Baseboard. Order Frame separate.



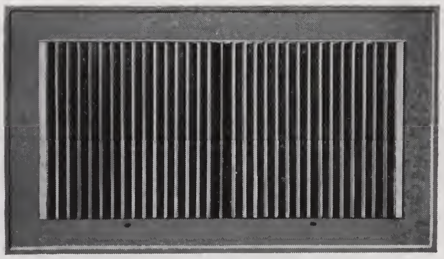
No. 252 — One-Piece Baseboard — Furnished Less Frame. Order Installation Frame separate.



No. 251 — Two-Piece Baseboard with 102-B ⅞ inch Baseboard Flange-Over Frame.



No. 1152 — Baseboard Vent ⅞ inch Flange.



No. 1149 — Flat Vent or Grille — Sidewall.

On all Baseboard Styles Stack Head Sets ⅝ Inch above Finished Floor.

LIST PRICES — Nos. 249 — 252 — 251 — 1149 — 1152

Size	249		252		251		1152		1149		WHEN AVAILABLE		Insiallation Frames	
	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Metalac Prime Group 1	White Ivory Group 2	Brass, Bronze, Nickel, Cadmium Add extra to Metalac List	Chrome and Sand Plated Add extra to Metalac List	101-F	125-S 125-B 102-B
8 x 4	$2.45	$2.60	$2.55	$2.70	$3.00	$3.15	$1.60	$1.75	$1.50	$1.65	$0.80	$1.75	$0.20	$0.55
8 x 5	2.60	2.75	2.70	2.85	3.20	3.35	1.70	1.85	1.60	1.75	.85	1.85	.20	.60
8 x 6	2.75	2.90	2.85	3.00	3.40	3.55	1.80	1.95	1.70	1.85	.90	1.95	.20	.65
10 x 4	•2.60	•2.75	2.70	2.85	3.20	3.35	1.70	1.85	1.60	1.75	.85	1.85	.20	.60
10 x 5	2.75	2.90	2.85	3.00	3.40	3.55	1.80	1.95	1.70	1.85	.90	1.95	.20	.65
10 x 6	•2.85	•3.05	•2.95	•3.15	•3.50	•3.70	•1.85	•2.00	•1.75	•1.90	.95	2.05	.20	.65
10 x 8	3.10	3.30	3.25	3.40	3.80	4.00	2.05	2.25	1.90	2.10	1.00	2.20	.25	.70
12 x 4	•2.75	•2.90	2.85	3.00	3.40	3.55	1.80	1.95	1.70	1.85	.90	1.95	.20	.65
12 x 5	3.00	3.15	3.10	3.30	3.70	3.85	1.95	2.10	1.85	2.00	1.00	2.15	.25	.70
12 x 6	•3.10	•3.30	•3.25	•3.40	•3.80	•4.00	•2.05	•2.25	•1.90	•2.10	1.00	2.20	.25	.70
12 x 8	3.40	3.60	3.50	3.70	4.20	4.40	2.20	2.40	2.10	2.30	1.10	2.40	.25	.80
14 x 4	•2.85	•3.05	2.95	3.15	3.50	3.70	1.85	2.00	1.75	1.90	.95	2.05	.20	.65
14 x 5	3.10	3.30	3.25	3.40	3.80	4.00	2.05	2.25	1.90	2.10	1.00	2.20	.25	.70
14 x 6	•3.40	•3.60	•3.50	•3.70	•4.20	•4.40	•2.20	•2.40	•2.10	•2.30	1.10	2.40	.25	.80
14 x 8	3.65	3.85	3.80	4.00	4.50	4.70	2.40	2.60	2.25	2.45	1.20	2.60	.30	.85
24 x 4	3.90	4.15	4.05	4.30	4.80	5.05	2.55	2.80	2.40	2.65	1.30	2.80	.30	.90
24 x 5	4.15	4.40	4.30	4.55	5.10	5.35	2.70	2.95	2.55	2.80	1.35	2.95	.30	.95
24 x 6	4.95	5.25	5.15	5.40	6.10	6.40	•3.25	•3.55	•3.05	•3.35	1.60	3.50	.40	1.15
24 x 8	5.70	6.05	5.95	6.25	7.00	7.35	3.70	4.05	3.50	3.85	1.85	4.05	.45	1.30
30 x 4	4.80	5.10	5.00	5.25	5.90	6.20	3.15	3.45	2.95	3.25	1.55	3.40	.35	1.10
30 x 5	5.20	5.50	5.40	5.70	6.40	6.70	3.40	3.70	3.20	3.50	1.70	3.70	.40	1.20
30 x 6	6.00	6.35	6.20	6.55	7.40	7.75	•3.90	•4.25	•3.70	•4.05	1.95	4.25	.45	1.40
30 x 8	6.75	7.15	7.00	7.40	8.30	8.70	4.40	4.80	4.15	4.55	2.20	4.80	.50	1.55

Sizes preceded by ● are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise Adherence to Standardized Sizes.

Finish Symbols and Explanations

Group 1. MT — Metalac; PC — Prime Coat.

Group 2. W — White; IV — Ivory.

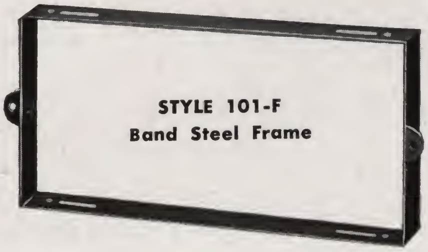
U. S. AIR-CONDITIONING INSTALLATION FRAMES

No. 101-F BAND FRAME

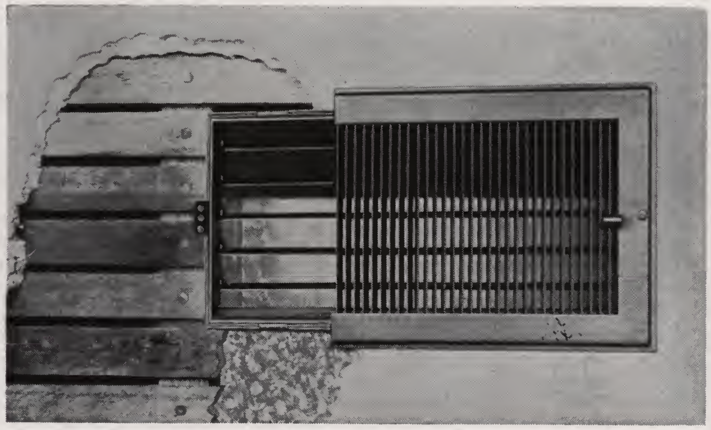
For Sidewall or Baseboard Heads

STYLE 101-F Band Steel Frame attaches to Inside of Stackhead with metal straps through Strap Holes in Frame or with metal screws for which screw holes are provided in the Frame.

Attaching Lugs are flush with the Frame Edge which draws the SEALING GASKET TIGHTLY against the Wall thus preventing Leakage and Streaked Walls.



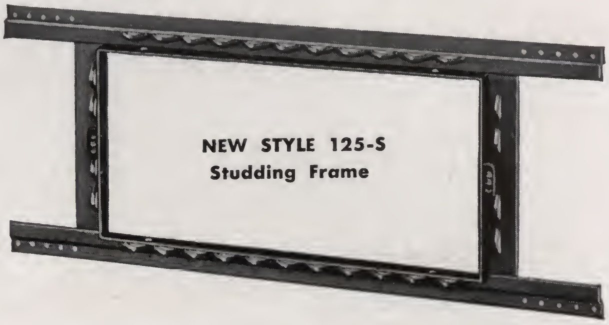
Reproduction of Sidewall Air-Conditioning Register Installation with No. 101-F Band Frame.



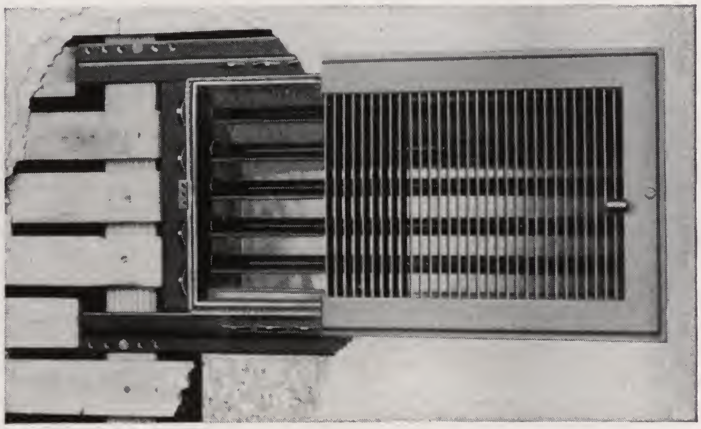
No. 125-S STUDDING FRAME

For Sidewall or Ceiling Heads

STYLE 125-S Studding Frame attaches to Studding. Arms are 19 inches long to permit shifting to one side when necessary. Studding-Arms are flat, yet rigid — does not necessitate cutting and fitting of lath or wall-board. Made standard for ⅝ inch lath and plaster. Plaster-Loops hold plaster to collar and prevent breaking and Shrinking of Plaster.



Reproduction of Sidewall Air-Conditioning Register Installation with No. 125-S Studding Frame.



LIST PRICES OF No. 101-F BAND FRAMES

Listed by Stackhead Size

8 x 4	$0.20	•12 x 4	$0.20	24 x 4	$0.30
8 x 5	.20	12 x 5	.25	24 x 5	.30
8 x 6	.20	•12 x 6	.25	24 x 6	.40
		12 x 8	.25	24 x 8	.45
•10 x 4	.20	•14 x 4	.20	30 x 4	.35
10 x 5	.20	14 x 5	.25	30 x 5	.40
•10 x 6	.20	•14 x 6	.25	30 x 6	.45
10 x 8	.25	14 x 8	.30	30 x 8	.50

LIST PRICES OF No. 125-S STUDDING FRAMES

Listed by Stackhead Size

8 x 4	$0.55	•12 x 4	$0.65	24 x 4	$0.90
8 x 5	.60	12 x 5	.70	24 x 5	.95
8 x 6	.65	•12 x 6	.70	24 x 6	1.15
		12 x 8	.80	24 x 8	1.30
•10 x 4	.60	•14 x 4	.65	30 x 4	1.10
10 x 5	.65	14 x 5	.70	30 x 5	1.20
•10 x 6	.65	•14 x 6	.80	30 x 6	1.40
10 x 8	.70	14 x 8	.85	30 x 8	1.55

Sizes preceded by • are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise Adherence to Standardized Sizes.

For Unlisted Sizes of Air-Conditioning Register Installation Frames — Compute from Basic Lists and Factors tabulated on Pages 36 and 37.

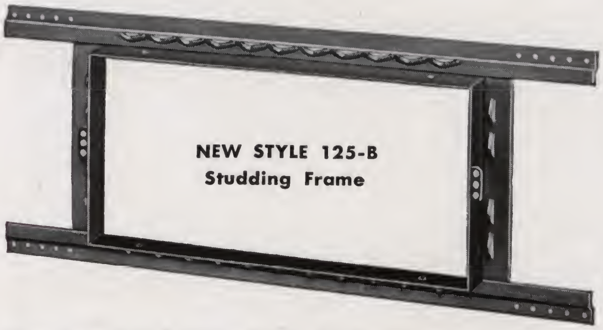
U. S. AIR-CONDITIONING INSTALLATION FRAMES

No. 125-B STUDDING FRAME

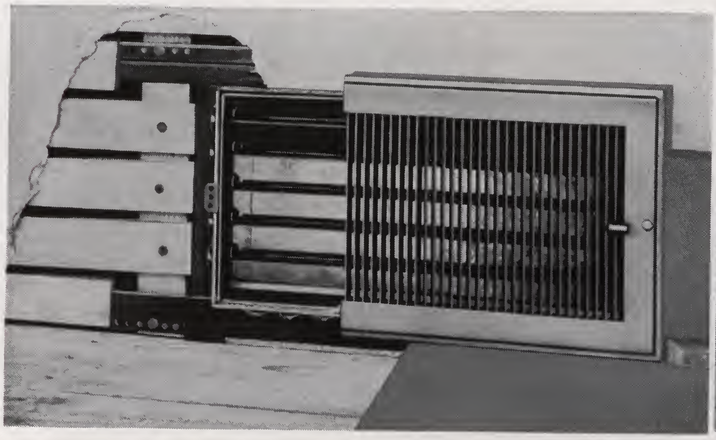
For Baseboard Heads with Baseboard or Sidewall Air-Conditioning Registers

No. 125-B STUDDING FRAME attaches to Studding. Arms are 19 inches long to Permit Shifting to the side if necessary.

Studding Arms are Flat yet rigid — does not necessitate cutting and fitting of Lath or Wallboard. Made with 1⅜ inch collar for Baseboard Setting. Plaster-Loops hold Plaster to Collar and prevent breakage and Shrinkage of Plaster.



Showing Air-Conditioning Register Installation with 125-B FRAME. Frame fits around Stackhead which flanges over frame collar.



LIST PRICES OF No. 125-B STUDDING FRAMES

Listed by Stackhead Size

8 x 4	$0.55	12 x 4	$0.65	24 x 4	$0.90
8 x 5	.60	12 x 5	.70	24 x 5	.95
8 x 6	.65	● 12 x 6	.70	24 x 6	1.15
		12 x 8	.80	24 x 8	1.30
10 x 4	.60	14 x 4	.65	30 x 4	1.10
10 x 5	.65	14 x 5	.70	30 x 5	1.20
● 10 x 6	.65	● 14 x 6	.80	30 x 6	1.40
10 x 8	.70	14 x 8	.85	30 x 8	1.55

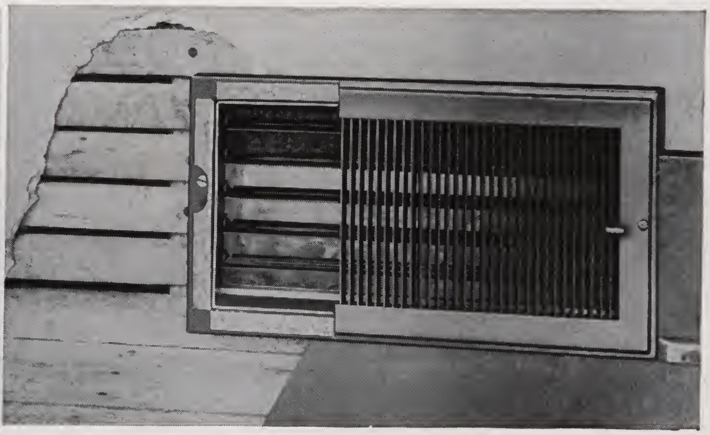
No. 102-B BASEBOARD FRAME

For Baseboard Heads — Used with Any A-C Sidewall Register Style

No. 102-B BASEBOARD FRAME Converts any Sidewall Style of A-C Register into a LEAK-PROOF BASEBOARD REGISTER.

FRAME attaches to Studding with Wood Screws. Box extends through and bends over Frame — over which Register is attached to Frame with Screws — RESULT — A PERFECT LEAK-PROOF INSTALLATION.

Showing Air-Conditioning Register Installation with 102-B BASEBOARD FRAME. A positive LEAK-PROOF Installation.



LIST PRICES OF No. 102-B BASEBOARD FRAMES

Listed by Stackhead Size

8 x 4	$0.55	12 x 4	$0.65	24 x 4	$.90
8 x 5	.60	12 x 5	.70	24 x 5	.95
8 x 6	.65	● 12 x 6	.70	24 x 6	1.15
		12 x 8	.80	24 x 8	1.30
10 x 4	.60	14 x 4	.65	30 x 4	1.10
10 x 5	.65	14 x 5	.70	30 x 5	1.20
● 10 x 6	.65	● 14 x 6	.80	30 x 6	1.40
10 x 8	.70	14 x 8	.85	30 x 8	1.55

Sizes preceded by ● are Standardized Sizes authorized by Code Committee of National Warm Air Heating and Air-Conditioning Association. We urgently advise Adherence to Standardized Sizes.

For Unlisted Sizes of Air-Conditioning Register Installation Frames — Compute from Basic Lists and Factors tabulated on Pages 36 and 37.

Individual Packaged Weights of U. S. AIR-CONDITIONING REGISTERS in Pounds per Piece

This Schedule of Weights Does Not Include Shipping Containers

Size	NO. 103 SERIES DESIGN				NO. 153 SERIES DESIGN				NO. 256 SERIES DESIGN				NO. 249 SERIES DESIGN				Installation Frames	
	No. 103	No. 109	No. 115	No. 118	No. 153	No. 165	No. 175	No. 177	No. 256	No. 267	No. 176	No. 178	No. 249	No. 252	No. 101-F	No. 125-S	No. 125-B	No. 102-B
8 x 4	.9	1.3	.7	.5	1.2	1.6	1.9	.7	1.7	2.0	1.2	.6	1.9	2.3	.3	1.2	1.5	.6
8 x 5	1.2	1.4	.8	.6	1.3	1.7	1.1	.9	1.8	2.1	1.3	.8	2.0	2.4	.4	1.2	1.6	.6
8 x 6	1.3	1.6	.9	.6	1.7	2.	1.3	1.0	1.9	2.2	1.7	.9	2.1	2.6	.4	1.2	1.7	.6
10 x 4	1.2	1.5	.8	.5	1.4	1.7	1.1	.8	1.5	1.8	1.2	.8	2.1	2.5	.4	1.2	1.5	.6
10 x 5	1.3	1.6	.9	.6	1.6	1.9	1.4	1.0	1.8	2.3	1.7	.9	2.3	2.7	.4	1.2	1.6	.6
10 x 6	1.4	1.8	1.1	.7	1.8	2.2	1.8	1.2	2.1	2.6	1.9	1.1	2.5	2.9	.5	1.3	1.7	.6
10 x 8	1.7	2.1	1.2	.8	2.3	2.7	2.1	1.8	2.8	3.3	2.3	1.8	3.3	3.7	.6	1.5	1.8	.7
12 x 4	1.4	1.8	.9	.6	1.8	2.0	1.3	1.1	1.9	2.1	1.4	1.1	2.3	2.7	.5	1.3	1.7	.7
12 x 5	1.5	1.9	1.1	.7	2.	2.2	1.4	1.2	2.0	2.4	1.5	1.3	2.6	3.2	.6	1.3	1.7	.7
12 x 6	1.6	2.	1.2	.8	2.2	2.5	1.6	1.3	2.2	2.7	1.8	1.4	3.0	3.4	.6	1.4	1.8	.7
12 x 8	2.2	2.6	1.4	.9	2.9	3.3	2.1	1.9	3.3	3.7	2.5	2.2	3.7	4.1	.7	1.6	1.9	.8
14 x 4	1.6	2.	1.1	.7	2.1	2.4	1.4	1.1	2.1	2.4	1.6	1.1	2.8	3.2	.6	1.3	1.7	.7
14 x 5	1.8	2.2	1.2	.8	2.5	2.7	2.2	1.3	2.5	2.9	1.7	1.2	3.0	3.6	.6	1.3	1.8	.8
14 x 6	2.1	2.5	1.4	.9	2.8	3.	2.5	1.6	3.0	3.3	1.9	1.4	3.6	4.1	.7	1.4	1.9	.9
14 x 8	2.4	3.	1.6	1.1	3.6	3.9	3.2	2.4	4.6	5.1	2.6	2.5	4.4	4.8	.8	1.6	2.0	1.0
24 x 4	...	...	1.7	1.2	...	...	2.8	2.5	3.3	...	2.9	2.2	...	...	...	...	...	...
24 x 5	...	...	1.9	1.3	...	...	3.1	2.7	4.2	...	3.2	2.6	...	...	...	...	...	...
24 x 6	...	...	2.	1.6	...	...	3.4	2.8	5.0	...	3.4	2.8	...	...	...	...	...	...
24 x 8	...	...	2.4	1.8	...	...	4.5	3.9	6.7	...	4.2	4.1	...	...	...	...	...	...
30 x 4	...	...	2.2	1.6	...	...	3.7	3.4	5.4	...	3.5	2.9	...	...	...	...	...	...
30 x 5	...	...	2.3	1.7	...	...	4.	3.6	6.0	...	3.7	3.1	...	...	...	...	...	...
30 x 6	...	...	2.4	1.8	...	...	4.5	4.1	6.6	...	4.2	3.5	...	...	...	...	...	...
30 x 8	...	...	2.9	2.	...	...	5.9	5.6	8.4	...	5.3	5.1	...	...	...	...	...	...

No. 256 U. S. AIR-CONDITIONING REGISTER — Multiple Valves

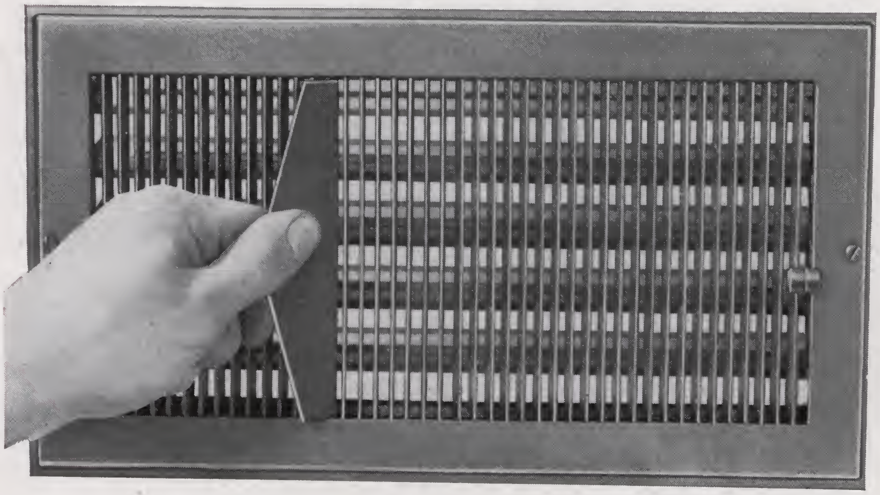
Vertical Grille-Bars

Spaced ¼ inch apart — Standard Setting 22° Right and Left Flow. May be furnished with any group deflection or may be reset with Setting Wrench.

Lever-operated Horizontal Multiple Valves — spaced 1 inch on centers — May be operated from 45° downflow to any degree of upflow designed and still deliver an even air flow over entire Grille Area.

Furnished with Rubber Gaskets.

No. 256 Air-Conditioning Register



Note Carefully

No. 178 HVI A-C Grille

Equipped with SAME GRILLE as No. 256 A-C Register, but with Individually-Set Rear Blades — spaced 1 inch on Centers.

Each Rear Blade may be adjusted with Adjusting Fork to any deflection desired.

Rear Blades run horizontally opposite to the Vertical Grille-Bars and furnished in this manner ONLY.

Furnished with Rubber Gaskets.

No. 153 VVL U. S. AIR-CONDITIONING REGISTER — Multiple Valves

Horizontal Grille-Bars

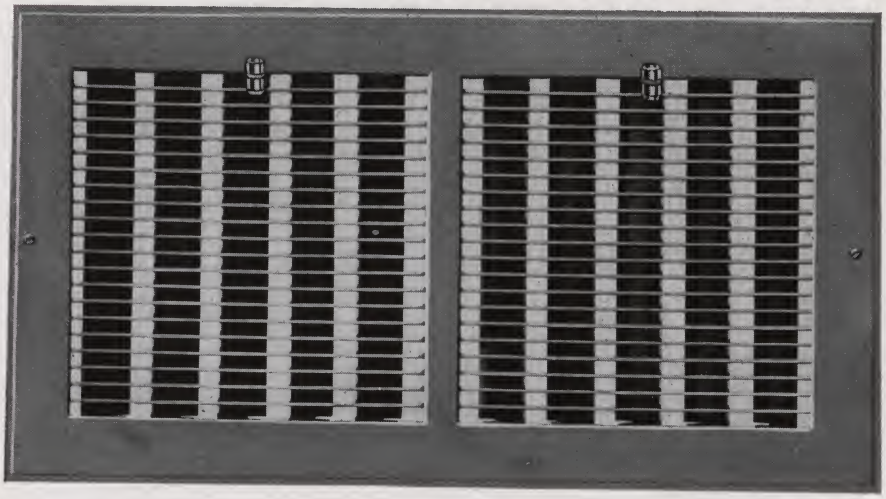
Spaced ¼ Inch Apart — Standard Setting Straight. May be furnished with any deflection or may be reset with Setting Wrench.

Lever-operated Vertical Multiple Valves — spaced 1 inch on center — may be operated from Closed Position to any degree of deflection to 45° Right and Left Flow or 45° Side Flow.

The MOST FLEXIBLE of all Air-Conditioning Register Operations for Commercial Work.

Furnished with Rubber Gaskets.

No. 153 VVL Air-Conditioning Register



Note Carefully

No. 177 VVI A-C Grille

Equipped with SAME GRILLE as No. 153 VVL A-C Register but with Individually-Set Rear Blades spaced 1 inch on Centers.

Each Rear Blade may be adjusted with Adjusting Fork to any deflection desired.

Rear Blades run horizontally-opposite to the Vertical Grille-Bars and furnished in this manner ONLY.

Furnished with Rubber Gaskets.

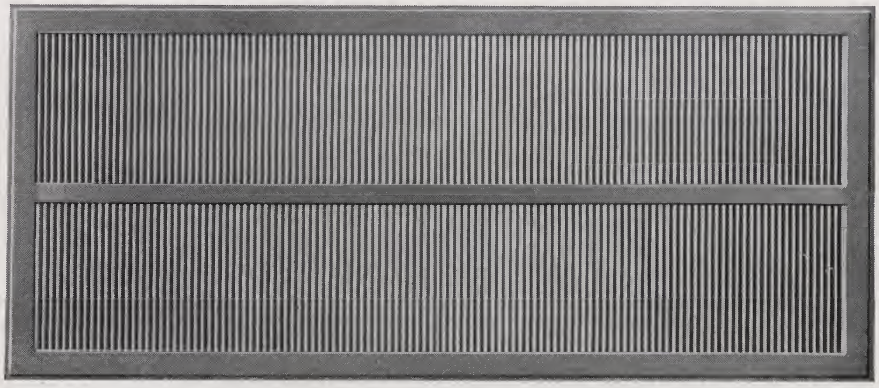
AVOID COSTLY ERRORS and Delays. DESIGNATE CLEARLY Duct Width and Height Dimension.
LIST PRICES of POPULAR COMMERCIAL SIZES Page 35. Unlisted Sizes — See Tables, Pages 36 and 37.
Order by Duct or Trunk-Line Sizes of which 2 inches is a Common Multiple.

No. 178 U. S. AIR-CONDITIONING GRILLE

Vertical Grille-Bars — Standard Setting — 22° Right and Left

May be furnished in Straight 22° and 45° Grille-Bar Settings as ordered
Grille-Bars may be reset with Setting Wrench
Designate by Duct Size (Stating Clearly which is Width and Height Dimension) and Finish

No. 178 U. S. Air-Conditioning Grille



VERTICAL BAR No. 178 U. S. A-C GRILLE — Showing One Mullion (No Vertical Mullion in Any Size). Grilles Specified as No. 178 — No Deflection designated — will be Furnished half 22° Left — Half 22° Right-Flow. Vertical Bars are spaced Four Openings to the Lineal Inch. Bars are ¼ inch deep. Free Area 80%.

On account of practical Die Construction Sizes Higher or with Grille-Bars longer than 12 inches require Horizontal Mullions as Described Below. 22° and 45° Deflection Furnished as specified or Flexible Grille-Bars may be set to desired deflection with Setting-Wrench.

Number of Horizontal Mullions for Various Heights or Lengths of Grille-Bars. Height Sections must be in multiples of two or five inches.

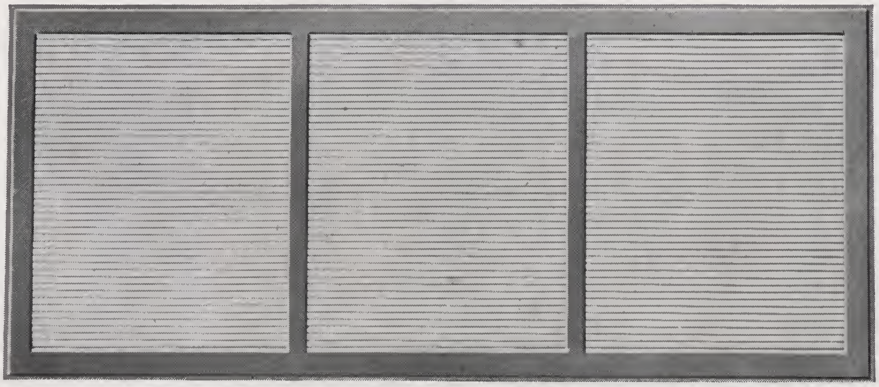
4″ 5″ 6″ 8″ 9″ 10″ 12″-Heights	No Mullion	32″ 34″ 38″ 40″ 48″-Heights	Three Mullions
14″ 16″ 18″ 20″ 24″ -Heights	One Mullion	42″ 44″ 46″ 50″ 60″-Heights	Four Mullions
22″ 26″ 28″ 30″ 36″ -Heights	Two Mullions	52″ 54″ 56″ 58″ -Heights	Five Mullions

No. 177 U. S. AIR-CONDITIONING GRILLE

Horizontal Grille-Bars — Standard Setting Is Straight Flow

May be furnished in Straight 22° or 45° Grille-Bar Settings as ordered
Grille-Bars may be reset with Setting Wrench
Designate by Duct Size — Stating Clearly which is WIDTH and HEIGHT Dimension — STYLE Number and Finish

No. 177 U. S. Air-Conditioning Grille



HORIZONTAL-BAR No. 177 U. S. A-C GRILLE — Showing Two Mullions (No Horizontal Mullion Any Size). Grilles Specified as No. 177 — No deflection Designated will be furnished STRAIGHT-FLOW.

Horizontal Bars are Spaced Four Openings to the Lineal Inch. Bars are ¼ inch Deep. Free Area 80%.

On account of Practical Die Construction Sizes Wider or with Bars longer than 12 inches require Vertical Mullions as described below. 22° or 45° Deflection furnished as Specified or Flexible Grille-Bars may be set to desired Deflection with Setting-Wrench.

Number of Vertical Mullions for Various Widths (or Lengths of Grille Bars) must be in multiples of two inches.

6″ 8″ 10″ 12″-Widths	No Mullion	32″ 34″ 38″ 40″ 48″-Widths	Three Mullions
14″ 16″ 18″ 20″ 24″-Widths	One Mullion	42″ 44″ 46″ 50″ 60″-Widths	Four Mullions
22″ 26″ 28″ 30″ 36″-Widths	Two Mullions	52″ 54″ 56″ 58″ -Widths	Five Mullions

Daylight Size is ⅞ inch under Duct Size. Over-all Size is 1½ inches over Duct Size. Standard Border Width 1$\frac{3}{16}$ inch.

Standard Borders have bevelled edge. Narrower than Standard are Flat. Wider than Standard Furnished.
Rubber Gaskets are not Standard Equipment but may be furnished at extra charge.
List Prices of Popular Commercial Sizes, Page 35. Unlisted Sizes See Tables, Pages 36 and 37.

No. 249 U. S. AIR-CONDITIONING REGISTER — Multiple Valves — Horizontal

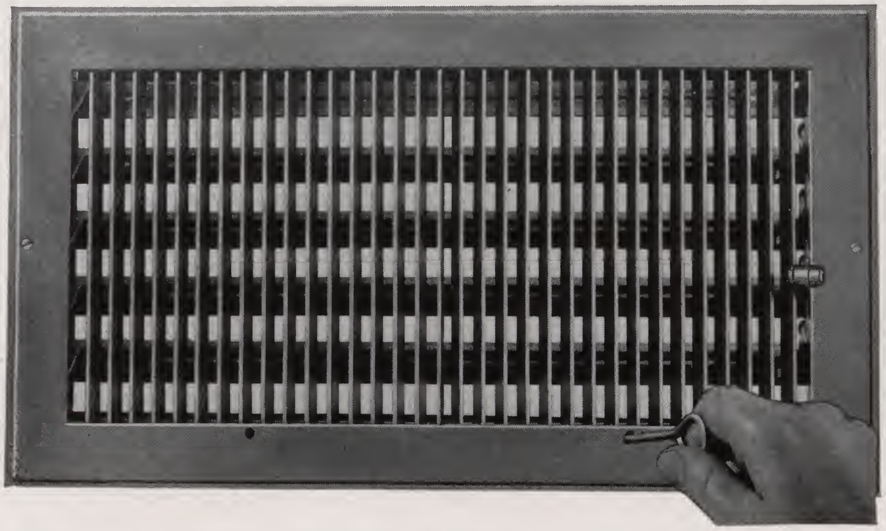
Vertical Adjustable Grille-Bars

Spaced $3/8$ Inch Apart — Adjusts from 45° Right to 45° Left, 45° Half Right-Half Left or any Group Adjustment to Four-Bar Groups. Adjustment of Grille-Bars is made with Key-Pin.

Lever-operated Horizontal Multiple Valves — Spaced 1 inch on centers may be operated from 45° downflow to any degree of upflow desired and still deliver an even air-flow over entire Grille area.

Designate by Duct Size (stating clearly which is Width and Height Dimension) and Finish.
Furnished with Rubber Gasket.

No. 249 U. S. Air-Conditioning Register



Note Carefully

No. 1149 HVI A-C Grille

Equipped with same Grille as No. 249 A-C Register but with Individually-Set Rear Blades — spaced 1 inch on Centers.

Each Rear Blade may be adjusted with an Adjusting Fork to any Deflection desired.

Rear Blades run horizontally — OPPOSITE to the Vertical Grille-Bars and furnished in this manner ONLY.

Furnished with Rubber Gaskets.

No. 145 VVL U. S. AIR-CONDITIONING REGISTER — Multiple Valves — Vertical

Horizontal Adjustable Grille-Bars

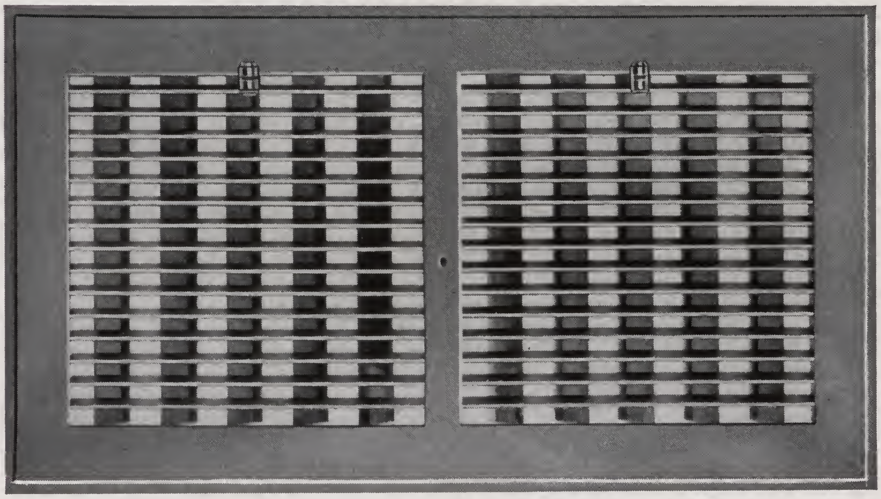
Spaced $3/8$ Inch Apart — Adjusts from 60° Upflow to 60° Downflow.

Standard Bar Group Adjustment — may be furnished in any Group Adjustment to Four Bar Groups. Adjustment of Grille-Bars is made with Key Pin.

Lever-operated Vertical Multiple Valves — spaced 1 inch on centers may be operated from Closed Position to any degree of deflection to 45° Right and Left Flow or 45° Side Flow.

Designate by Duct Size (stating clearly which is Width and Height Dimension) and Finish.
Furnished with Rubber Gaskets.

No. 145 VVL U. S. Air-Conditioning Register



Note Carefully

No. 1145 VVI A-C Grille

Equipped with SAME GRILLE as No. 145 VVL A-C Register but with Individually-set Rear Blades spaced 1 inch on centers.

Each Rear Blade may be adjusted with an Adjusting-Fork to any deflection desired.

Rear Blades run VERTICALLY-OPPOSITE to the Horizontal Grille-Bars and furnished in this manner ONLY.

Furnished with Rubber Gaskets.

AVOID COSTLY ERRORS and DELAYS. DESIGNATE CLEARLY DUCT WIDTH and HEIGHT DIMENSION.

LIST PRICES of Popular Commercial Sizes Page 35. Unlisted Sizes — See Tables, Pages 36 and 37

Order by Duct or Trunk-Line Sizes of which 2 inches is a Common Multiple.

No. 1149 U. S. AIR-CONDITIONING GRILLE — Adjustable Bar — Vertical

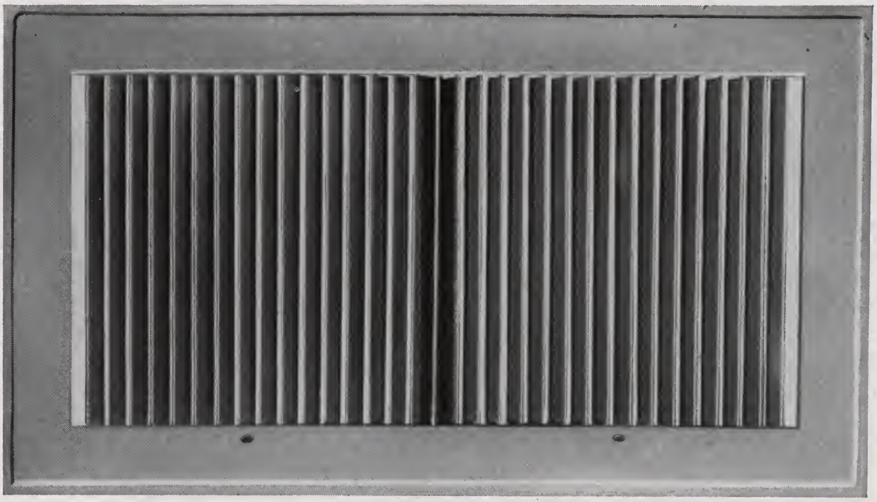
Vertical Grille-Bars

Spaced ⅜ inch apart — ⅜ inch deep. Adjusts from 45° Right to 45° Left — 45° Half Right-Half Left or any Group Adjustment to Four-Bar Groups.

Adjustment of Grille-Bars is made with Key Pin.

DESIGNATE by Duct Size (Stating Clearly which is Width and Height Dimension) and Finish.

No. 1149 U. S. Air-Conditioning Grille



No. 1149 U. S. Adjustable-Bar Air-Conditioning Grille — Showing no Horizontal Mullion. Small sizes have no Mullion. Larger sizes have one or more Mullions according to Height Dimension. No Vertical Mullions in any No. 1149 A-C Grilles.

No. 1145 U. S. AIR-CONDITIONING GRILLE — Adjustable Bar — Horizontal

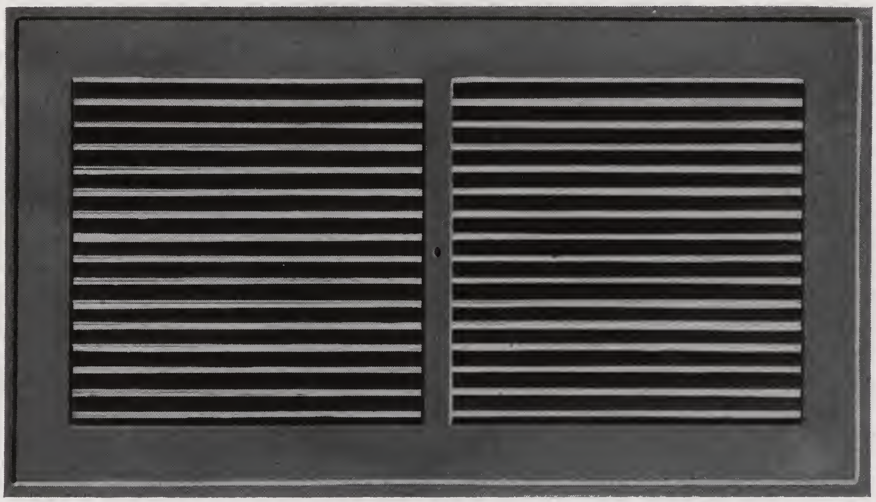
Horizontal Grille-Bars

Spaced ⅜ inch on centers — ⅜ inch deep — ADJUSTS from 60° upflow to 60° downflow. Standard Bar Group Adjustment may be furnished in any Group Adjustment to Four-Bar Groups.

Adjustment of Grille-Bars is made with Key Pin Operator.

DESIGNATE by Duct Size (Stating Clearly which is Width and Height Dimension) and Finish.

No. 1145 U. S. Air-Conditioning Grille



No. 1145 U. S. Adjustable-Bar Air-Conditioning Grille — Showing one Mullion. Small Sizes have one Vertical Mullion. Larger Sizes have two or more Vertical Mullions according to the Width Dimension. No Horizontal Mullions in any No. 1145 A-C Grilles.

Daylight Size is ⅞ inch under Duct Size. Over-all Size is 1½ inch over Duct Size. Standard Border 1³⁄₁₆ inches. Standard Borders have bevelled edge. Narrower than Standard are flat. Wider than Standard are furnished with bevelled edge.

Rubber gaskets are not standard equipment but may be furnished at an extra charge.

List Prices of Popular Commercial Sizes Page 35. Unlisted Sizes See Tables, Pages 36 and 37.

Nos. 219 - 220 - 221 - 222 - 223 - 224 - U. S. AIR-CONDITIONING GRILLES

Directional-Flow — Non-Vision — Non-Adjustable

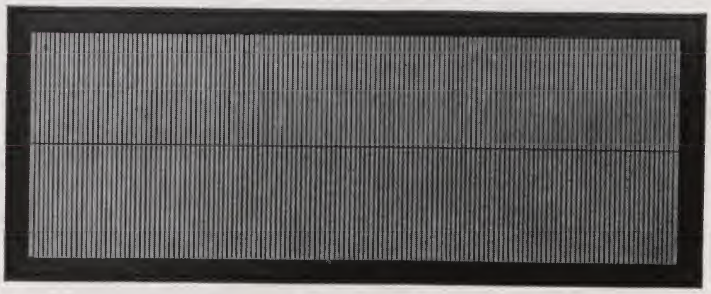
State Clearly which is Width and Height Dimension
Designate by Duct Size, Style Number and Finish

*No. 219 — Close Space, Straight Flow

Spacing of Fin-Bars, 3/16 inch clear.
Depth of Fin-Bars, ¾ inch.
Width of Bevelled Edge Border, 1 3/16 inch.
Percentage of Duct Opening represented by Grille Free Area, 71% or 80% Actual Free Area.
Special narrow or wide Borders furnished.

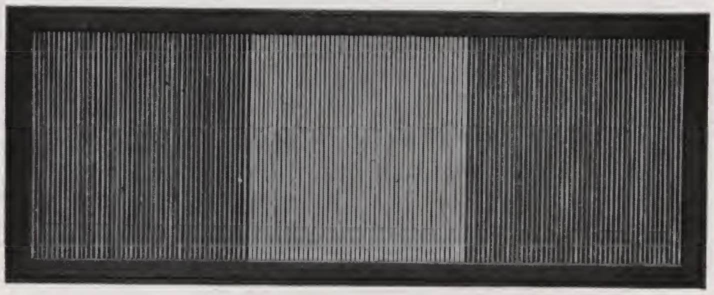
*No. 220 — Close Space, 22° or 45° Down Flow

Spacing of Fin-Bars, 3/16 inch clear.
Depth of Fin-Bars, ¾ inch.
Width of Bevelled Edge Border, 1 3/16 inch.
Percentage of Duct Opening represented by Grille Free Area, 71% or 80% Actual Free Area.
Specify Down Flow Deflection required.
Up-Flow and Down-Flow may be had.



*No. 221 — Close Space, Straight Flow
If One-Way Flow right or left is required specify direction and number, i.e. No. 221 Left Flow or Right Flow.

Spacing of Fin-Bars, 3/16 inch clear.
Depth of Fin-Bars, ¾ inch.
Right or Left Flow Deflection can be had.
Percentage of Duct Opening represented by Grille Free Area, 71% or 80% Actual Free Area.



*No. 222 — Close Space, Two-Way Flow 22° or 45°
*No. 223 — Close Space, Three-Way Flow
*No. 224 — Close Space, Five-Way Flow

Spacing of Fin-Bars, 3/16 inch clear.
Depth of Fin-Bars, ¾ inch.
Designate Flow required by Style Number and Degree of Deflection.
Percentage of Duct Opening represented by Grille Free Area, 71% or 80% Actual Free Area.

No Mullions in any of Nos. 219, 220, 221, 222, 223 and 224 A-C Grilles.
Daylight Size is ⅞ inch under Duct Size. Over-all Size is 1½ inch over Duct Size.
Standard Borders 1 3/16 inches.
Standard Borders have bevelled edge; narrower than Standard are Flat.
Wider Borders than Standard are furnished with bevelled edge.
Rubber Gaskets are not Standard Equipment but may be furnished at extra charge.
List Prices of Popular Commercial Sizes Page 35. Unlisted Sizes — See Tables, Pages 36-37.

***Grilles on this Page are not available at date of this Catalog Issue but may possibly be available at a later date.**

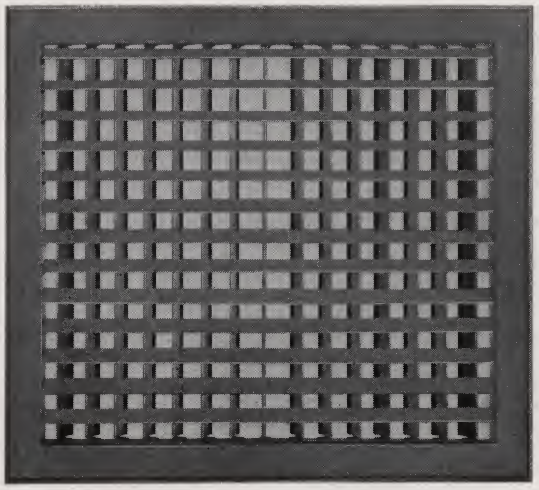
U. S. STYLE HVX MULTI-FLOW GRILLE

Individually-Set Deflector-Blades

(For Diversified Upward, Downward and Side-Flows)

With Front Blades Set in a Horizontal Position and Rear Blades in a Vertical Position

Style HVX



STYLE HVX — Has a Bevelled-Edge Frame of Standard 1 3/16 inch Width. (Wider may be furnished on Special Order.)

Front Blades run Horizontally and may be set and locked in Fixed Position to give Upward and Downward Air-Flows required.

Rear Blades run Vertically and may be set and locked in Fixed Position to give Side-Flows of Air Required.

Setting of Blades made with Screw Driver.

Standard Spacing of Blades is One Inch on Centers.

Blades are approximately One Inch Deep.

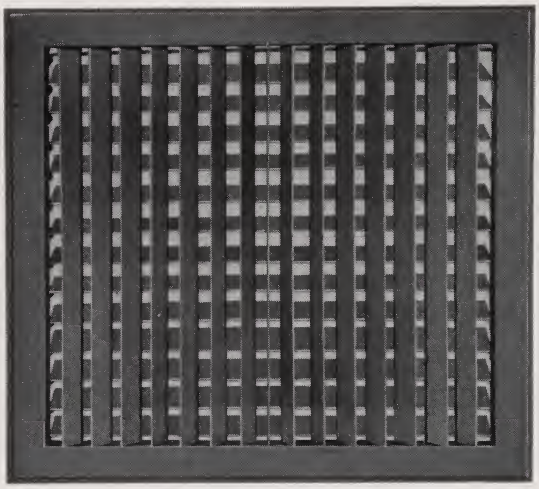
When ordering specify Wide Dimension and High Dimension and STYLE HVX which means Horizontally-Set Blades are in Front of Rear Blades.

U. S. STYLE VVX MULTI-FLOW GRILLE

Individually-Set Deflector-Blades

With Front Blades Set in a Vertical Position and Rear Blades in a Horizontal Position

Style VVX



Style VVX — Has a Bevelled-Edge Frame of Standard 1 3/16 Inch Width (Wider may be Furnished on Special Order).

Front Blades run Vertically and may be set and locked in Fixed Position to give Side-Flows of Air Required.

Rear Blades run Horizontally and may be set in Fixed Position to give Upward and Downward Air-Flow Required.

Setting of Blades made with Screw Driver.

Standard Spacing of Blades is One Inch on Centers.

Blades are approximately One Inch Deep.

When Ordering Specify Wide and High Dimension and STYLE VVX which means Vertically-Set Blades are in Front of Rear-Blades.

HVX and VVX Multi-Flow Grilles are not Stock Items but are made Special to Order.

To Determine List which is based on Duct Size MULTIPLY BASIC LIST (Page 36) of Size Required by Factor 3.05 for Prime Coat or Black Japan Finishes. Sizes not shown in Basic List takes Basic List of next Larger Size.

List Prices, Popular Commercial Sizes U. S. AIR-CONDITIONING REGISTERS and Grilles — Prime or Metalac

Duct Size	No. 256, No. 153VVL, No. 178HVI, No. 177VVI	No. 178, No. 177	No. 249, No. 145VVL, No. 1149HVI, No. 1145VVI	No. 1149, No. 1145	Nos. 219 to 224 Inclusive
6 x 4	$1.75	$0.80	$2.45	$1.50	....
8 x 4	1.75	.80	2.45	1.50	....
8 x 5	1.85	.85	2.60	1.60	....
8 x 6	1.95	.90	2.75	1.70	....
8 x 8	2.95	1.50	3.70	2.30	$2.80
10 x 4	1.85	.85	2.60	1.60	....
10 x 5	1.95	.90	2.75	1.70	....
10 x 6	2.05	.95	2.85	1.75	....
10 x 8	2.20	1.00	3.10	1.90	....
10 x 10	3.45	1.75	4.35	2.65	3.30
12 x 4	1.95	.90	2.75	1.70	....
12 x 5	2.15	1.00	3.00	1.85	....
12 x 6	2.25	1.05	3.10	1.90	....
12 x 8	2.40	1.10	3.40	2.10	....
12 x 10	3.80	1.95	4.80	2.95	3.65
12 x 12	4.15	2.15	5.25	3.25	4.00
14 x 4	2.05	.95	2.85	1.75	....
14 x 5	2.25	1.05	3.10	1.90	....
14 x 6	2.40	1.10	3.40	2.10	....
14 x 8	2.60	1.20	3.65	2.25	....
14 x 10	4.15	2.15	5.30	3.25	4.00
14 x 12	4.55	2.30	5.75	3.50	4.35
14 x 14	5.15	2.65	6.50	4.00	4.95
16 x 4	3.45	1.75	4.35	2.65	3.30
16 x 5	3.70	1.90	4.65	2.85	3.55
16 x 6	3.80	1.95	4.80	2.95	3.65
16 x 8	4.15	2.15	5.30	3.25	4.00
16 x 10	4.55	2.30	5.70	3.50	4.35
16 x 12	5.00	2.55	6.35	3.90	4.80
16 x 14	5.65	2.90	7.15	4.35	5.40
16 x 16	6.35	3.25	8.05	4.95	6.10
18 x 4	3.70	1.90	4.65	2.85	3.55
18 x 6	4.05	2.05	5.15	3.15	3.90
18 x 8	4.40	2.25	5.55	3.40	4.25
18 x 10	5.00	2.55	6.35	3.90	4.80
18 x 12	5.40	2.75	6.85	4.20	5.15
18 x 14	6.25	3.20	7.90	4.85	6.00
18 x 16	7.00	3.55	8.85	5.40	6.70
20 x 4	3.90	2.00	4.95	3.05	3.75
20 x 6	4.30	2.20	5.45	3.35	4.10
20 x 8	4.65	2.40	5.90	3.60	4.45
20 x 10	5.25	2.70	6.70	4.10	5.05
20 x 12	5.75	2.95	7.25	4.45	5.50
20 x 14	6.75	3.45	8.55	5.25	6.45
20 x 16	7.60	3.90	9.60	5.90	7.30
22 x 6	4.55	2.30	5.75	3.50	4.35
22 x 10	5.50	2.80	7.00	4.30	5.30
22 x 14	7.25	3.70	9.15	5.60	6.95
24 x 8	4.10	1.85	5.70	3.50	....
24 x 10	6.00	3.05	7.60	4.65	5.75
24 x 12	6.60	3.40	8.40	5.15	6.35
24 x 14	7.70	3.95	9.80	6.00	7.40
24 x 18	9.90	5.05	12.55	7.70	9.50
24 x 20	11.05	5.65	13.95	8.55	10.60
24 x 24	13.50	6.90	17.05	10.45	12.95
30 x 4	3.40	1.55	4.80	2.95	....
30 x 6	4.25	1.95	6.00	3.70	....
30 x 8	4.80	2.20	6.75	4.15	....
30 x 10	7.85	4.00	9.95	6.10	7.50
30 x 12	8.60	4.40	10.85	6.65	8.25
30 x 14	9.90	5.05	12.55	7.70	9.50
30 x 16	11.15	5.70	14.10	8.65	10.70
30 x 18	12.50	6.40	15.80	9.70	12.00
30 x 20	13.70	7.00	17.35	10.65	13.15
30 x 24	17.40	8.90	22.00	13.50	16.70
30 x 30	22.30	11.40	28.20	17.30	21.40
36 x 12	10.65	5.45	13.50	8.25	10.20
36 x 18	15.05	7.70	19.05	11.70	14.45
36 x 24	21.45	10.95	27.15	16.65	20.55

LIST PRICES of sizes not listed on this page may be computed from Tables on Pages 36 and 37.

Method for Computing List Prices of Special Sizes of U. S. Air-Conditioning Registers, Grilles and Component Parts as Listed Below

Select Basic List of required size at intersection and multiply by FACTOR of STYLE NUMBER required. Result in the nearest $.05 is the List.

* Asterisk represents Standard Sizes that are listed in STANDARD AIR-CONDITIONING REGISTER LISTS.

BASIC LIST — SCHEDULE 1.

Height Dimension In Inches Vertical	WIDTH DIMENSIONS in inches (Horizontal)																
	8	9	10	11	12	13	14	15 16	17 18	19 20	21 22	23	24	25 26	27 28	29	30
4	*	$1.05	*	$1.15	*	$1.25	*	$1.40	$1.50	$1.60	$1.70	$1.75	*	$1.95	$2.10	$2.20	*
5	*	1.10	*	1.20	*	1.35	*	1.50	1.55	1.65	1.75	1.85	*	2.10	2.20	2.35	*
6	*	1.15	*	1.25	*	1.40	*	1.55	1.65	1.75	1.85	1.95	*	2.20	2.35	2.50	*
7	$1.15	1.20	$1.25	1.35	$1.40	1.45	$1.50	1.65	1.75	1.85	1.95	2.05	$2.15	2.30	2.50	2.65	$2.75
8	1.20	1.25	*	1.40	*	1.50	*	1.70	1.80	1.90	2.05	2.15	*	2.40	2.65	2.75	*
9		1.30	1.35	1.45	1.50	1.55	1.60	1.75	1.90	2.05	2.15	2.25	2.35	2.55	2.75	2.95	3.10
10			1.40	1.50	1.55	1.60	1.70	1.85	2.05	2.15	2.25	2.35	2.45	2.70	2.95	3.10	3.20
11				1.55	1.60	1.70	1.80	1.95	2.10	2.25	2.35	2.50	2.60	2.80	3.10	3.25	3.35
12					1.70	1.80	1.85	2.05	2.20	2.35	2.55	2.65	2.70	2.95	3.25	3.35	3.50
13						1.85	1.95	2.15	2.35	2.55	2.75	2.85	2.95	3.15	3.50	3.60	3.75
14							2.10	2.30	2.55	2.75	2.95	3.05	3.15	3.45	3.75	3.90	4.05
15–16								2.60	2.85	3.10	3.35	3.45	3.60	3.90	4.25	4.40	4.55
17–18									3.20	3.50	3.75	3.90	4.05	4.40	4.75	4.90	5.10
19–20										3.90	4.20	4.35	4.50	4.85	5.25	5.40	5.60
21–22											4.65	4.85	5.10	5.55	6.00	6.20	6.40
23												5.10	5.30	5.80	6.30	6.45	6.65
24													5.50	6.05	6.60	6.75	7.10
25–26														6.50	7.15	7.45	7.80
27–28															7.70	8.05	8.45
29																8.45	8.75
30																	9.10

Height Dimension In Inches Vertical	WIDTH DIMENSIONS in inches (Horizontal)														
	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 46	47 48	49 50	51 52	53 54	55 56	57 58	59 60
4	$ 2.45	$ 2.60	$ 2.75	$ 3.00	$ 3.25	$ 3.50	$ 3.75	$ 4.00	$ 4.25	$ 4.60	$ 5.00	$ 5.35	$ 5.75	$ 6.10	$ 6.50
5	2.60	2.75	2.95	3.20	3.40	3.65	3.90	4.15	4.40	4.80	5.20	5.65	6.05	6.45	6.90
6	2.75	2.95	3.15	3.40	3.60	3.85	4.05	4.30	4.55	5.00	5.45	5.95	6.40	6.85	7.30
7	2.95	3.15	3.35	3.60	3.80	4.05	4.25	4.50	4.75	5.25	5.70	6.25	6.70	7.20	7.70
8	3.10	3.30	3.55	3.80	4.05	4.25	4.50	4.75	5.00	5.50	6.00	6.55	7.05	7.60	8.10
9	3.25	3.50	3.75	4.00	4.25	4.45	4.70	4.95	5.25	5.75	6.30	6.85	7.40	7.95	8.50
10	3.45	3.70	3.95	4.20	4.45	4.70	4.95	5.20	5.45	6.00	6.60	7.15	7.75	8.30	8.90
11	3.65	3.90	4.15	4.40	4.65	4.90	5.15	5.40	5.65	6.25	6.85	7.45	8.05	8.65	9.30
12	3.80	4.10	4.35	4.60	4.85	5.15	5.40	5.65	5.90	6.55	7.15	7.80	8.40	9.05	9.70
13	4.10	4.35	4.65	4.90	5.15	5.45	5.75	5.95	6.25	6.90	7.55	8.25	8.85	9.65	10.30
14	4.35	4.65	4.95	5.20	5.50	5.75	6.05	6.30	6.55	7.30	8.00	8.75	9.45	10.20	10.90
15–16	4.90	5.20	5.55	5.85	6.10	6.40	6.65	6.95	7.25	8.05	8.85	9.70	10.50	11.30	12.10
17–18	5.45	5.80	6.15	6.45	6.75	7.00	7.30	7.60	7.90	8.80	9.70	10.60	11.50	12.40	13.30
19–20	6.00	6.35	6.75	7.05	7.30	7.70	8.05	8.35	8.65	9.65	10.60	11.60	12.55	13.55	14.50
21–22	6.85	7.30	7.75	8.10	8.45	8.85	9.20	9.55	9.90	10.95	11.95	13.00	14.00	15.05	16.10
23	7.25	7.75	8.25	8.60	9.15	9.40	9.75	10.15	10.50	11.60	12.65	13.70	14.75	15.80	16.90
24	7.65	8.20	8.75	9.15	9.55	9.95	10.35	10.75	11.15	12.25	13.35	14.40	15.50	16.60	17.70
25–26	8.45	9.10	9.75	10.20	10.65	11.05	11.50	11.95	12.40	13.55	14.70	15.85	17.00	18.15	19.30
27–28	9.20	10.00	10.75	11.25	11.70	12.20	12.65	13.15	13.65	14.85	16.05	17.30	18.50	19.70	20.90
29	9.60	10.45	11.25	11.80	12.30	12.80	13.30	13.85	14.40	15.60	16.85	18.10	19.30	20.55	21.80
30	10.00	10.90	11.80	12.35	12.90	13.45	14.00	14.55	15.15	16.40	17.65	18.90	20.15	21.40	22.65
31–32	10.80	11.85	12.95	13.55	14.20	14.80	15.45	16.05	16.65	17.95	19.25	20.50	21.80	23.10	24.40
33–34		12.80	14.10	14.80	15.50	16.25	16.95	17.65	18.35	19.65	20.95	22.30	23.60	24.90	26.20
35–36			15.30	16.10	16.90	17.70	18.50	19.30	20.10	21.40	22.75	24.05	25.40	26.70	28.00
37–38				18.30	19.65	21.00	22.30	23.65	25.00	26.35	27.70	29.00	30.35	31.70	33.00
39–40					21.30	22.95	24.65	26.30	28.00	29.65	31.30	33.00	34.65	36.35	38.00
41–42						27.30	29.05	30.80	32.50	34.25	36.00	37.75	39.50	41.20	43.00
43–44							33.30	35.15	37.00	38.80	40.65	42.50	44.35	46.20	48.00
45–46								40.70	42.60	44.50	46.40	48.30	50.20	52.10	54.00
47–48									48.00	50.00	52.00	54.00	56.00	58.00	60.00

Blank spaces occupied by an Asterisk * represent sizes included in Standard List Prices.
We reserve right not to make sizes that Die Equipment Restricts. Specify by Width and Height.
FACTOR SCHEDULE — Which is No. 2, is completely presented on following page — 37.

FACTORS to be used with BASIC LISTS on Preceding Page No. 36

SCHEDULE No. 2

To ascertain the LIST PRICE of an Unlisted Size desired Multiply BASIC LIST of Required Size by the FACTOR of Style and Finish required — RESULT in the Nearest $.05 is the LIST PRICE.

Finish Group	No. 153	No. 165	Nos. 175, 176	Nos. 177, 178	Nos. 256, 178HVI, 153VVL, 177VVI	No. 267	Nos. 249, 1149HVI, 145VVL, 1145VVI	No. 252	Nos. 1149, 1145	No. 1152	Nos. 219 through 224	HVX, VVX
I	$2.00	$2.30	$1.55	$1.25	$2.45	$2.75	$3.10	$3.40	$1.90	$2.20	$2.35	$3.05
II	2.15	2.45	1.70	1.40	2.60	2.90	3.25	3.55	2.05	2.35	2.50	3.20
III	2.85	3.15	2.40	2.10	3.30	3.60	3.95	4.25	2.75	3.05	3.20	
IV	3.85	4.15	3.40	3.10	4.30	4.60	4.95	5.25	3.75	4.05	4.20	

Factors for Component A-C Register Parts

101-F Band Frame	125-S Studding Frame	125-B Studding Frame	102-B Baseboard Frame	Single Valves	Multiple Valves
.30	.80	.80	.80	.75	1.20

KEY OPERATION for U. S. AIR-CONDITIONING REGISTERS take an Additional List Price to be added to the Regular List.

ADDITIONAL LIST PRICES FOR KEY OPERATION

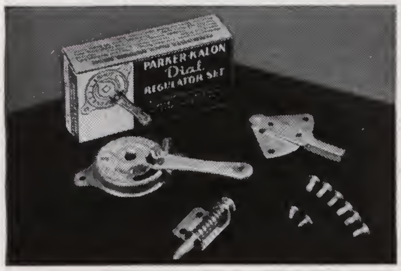
Width Inches		Height Inches			
0-24	x	0-18	Add	1.25	to Total List of Register
0-24	x	19-36	Add	2.50	to Total List of Register
0-24	x	37-54	Add	3.75	to Total List of Register
0-24	x	55-72	Add	5.00	to Total List of Register
25-48	x	0-18	Add	2.50	to Total List of Register
25-48	x	19-36	Add	5.00	to Total List of Register
25-48	x	37-54	Add	7.50	to Total List of Register
25-48	x	55-72	Add	10.00	to Total List of Register
49-72	x	0-18	Add	3.75	to Total List of Register
49-72	x	19-36	Add	7.50	to Total List of Register
49-72	x	37-54	Add	11.25	to Total List of Register
49-72	x	55-72	Add	15.00	to Total List of Register

Group 1 Finishes	Group 2 Finishes	Group 3 Finishes	Group 4
MT — Metalac	W — White	Statuary Bronze	Chrome Plated
PC — Prime Coat	IV — Ivory	Cadmium	

DIAL REGULATOR AND JIFFY REGULATOR SETS

Made of Steel, Cadmium Plated

SET No. 145 (For dampers up to 10") — Consists of: One ¼" Dial Regulator assembled with wing nut; one ¼" Spring-loc round end Bearing; one ¼" Universal square end Bearing; necessary screws and rivets.



Dial Regulator Set

SET No. 195 (For dampers up to 20") — Consists of: One ⅜" Dial Regulator assembled with wing nut; one ⅜" Spring-in round end Bearing; one ⅜" Universal square end Bearing; necessary screws and rivets.

SET No. 145T — Same as No. 145 but Regulator is assembled with locking nut for tamper-proof installation; also includes key for locking nut.

SET No. 195T — Same as No. 195 but Regulator is assembled with locking nut for tamper-proof installation; also includes key for locking nut.

SET No. 7 (For dampers up to 10") — Consists of: One ¼" Jiffy Regulator; one ¼" Spring-loc round end Bearing; necessary rivets.

Jiffy Regulator Set

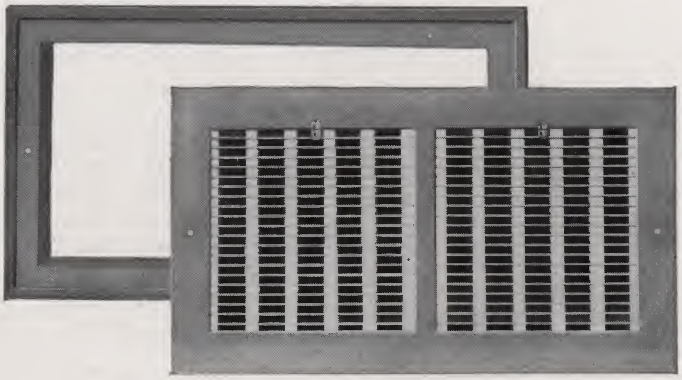
For Prices on Regular See Current Discount Sheet

For Prices on Dial Regulator Sets, Quadrants, Bearings and Rod Clips see Current Discount Sheet.

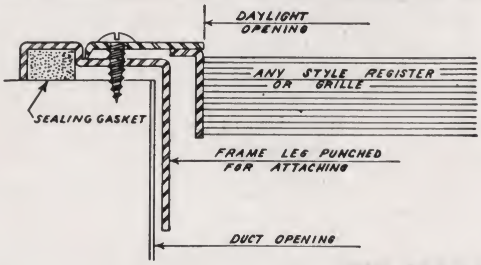
No. 51 (Outside) FRAMES for Air-Conditioning Registers and Grilles

Surface of Outside Frame is $\frac{7}{16}$ inch wide. Turn-back edge is ¼ inch assuring tight fitting contact to finished surface or wall. All No. 51 Frames are furnished with Rubber Gaskets when available.

No. 51 (Outside) Frame



Cross Section of Frame and Register or Grille Border showing method of attachment to frame.



The Return or Inside Leg of No. 51 Frame is of sufficient depth to make easy connections to all ducts and are punched with holes for attachment to duct, wall-buck or Lintel Frame. No holes in Face of Frame which is perfectly plain.

The Air Duct is shown on illustration as fitting outside of the No. 51 Frame which is standard practice.

Grilles attach to No. 51 Frame with Metal Screws.

Overall Size of No. 51 Frames add 2½ inches to Listed or Duct Size.

Frame No. 51 is made to exact catalog size.

Ducts must be made oversize to receive frames.

Special allowance must be made in duct sizes of a minimum ⅜ inch oversize where No. 51 Frames are used with Floor Registers and Governair Registers.

LIST PRICES of No. 51 FRAMES

To determine the Complete List of any Air-Conditioning Register or Grille with No. 51 Frame, add to the Register or Grille List the List of the No. 51 Frame.

Duct Size Wide by High	No. 51		
	Metalac Prime or B. J.	White Oak Lacquered	Standard Plated Finish
6 x 4	$1.05	$1.20	$1.85
6 x 6	1.10	1.25	2.00
8 x 4	1.10	1.25	1.90
8 x 5	1.15	1.30	1.95
8 x 6	1.20	1.35	2.10
8 x 8	1.25	1.45	2.25
10 x 4	1.20	1.35	2.05
10 x 5	1.25	1.40	2.10
10 x 6	1.30	1.45	2.20
10 x 8	1.35	1.55	2.35
10 x 10	1.45	1.65	2.65
12 x 4	1.25	1.40	2.15
12 x 5	1.30	1.45	2.30
12 x 6	1.35	1.55	2.35
12 x 8	1.45	1.65	2.55
12 x 10	1.55	1.75	2.85
12 x 12	1.65	1.85	3.15
14 x 4	1.35	1.50	2.30
14 x 5	1.40	1.60	2.40
14 x 6	1.45	1.65	2.55
14 x 8	1.55	1.70	2.70
14 x 10	1.65	1.85	3.15
14 x 12	1.75	2.05	3.35
14 x 14	1.85	2.10	3.60
16 x 4	1.45	1.60	2.45
16 x 5	1.50	1.70	2.55
16 x 6	1.55	1.75	2.70
16 x 8	1.60	1.85	2.95
16 x 10	1.70	2.00	3.30
16 x 12	1.80	2.10	3.60
16 x 14	1.95	2.25	3.80
16 x 16	2.10	2.45	4.05
18 x 4	1.50	1.70	2.50
18 x 5	1.60	1.80	2.70
18 x 6	1.65	1.85	2.90
18 x 8	1.70	1.95	3.25
18 x 10	$1.80	$2.10	$3.55
18 x 12	1.95	2.25	3.80
18 x 14	2.10	2.45	3.95
18 x 16	2.15	2.55	4.30
18 x 18	2.25	2.65	4.65
20 x 4	1.60	1.80	2.70
20 x 5	1.70	1.90	2.90
20 x 6	1.75	1.95	3.15
20 x 8	1.80	2.10	3.50
20 x 10	1.95	2.25	3.80
20 x 12	2.10	2.45	4.05
20 x 14	2.15	2.55	4.30
20 x 16	2.25	2.65	4.65
20 x 18	2.35	2.80	4.90
20 x 20	2.50	3.00	5.20
22 x 4	1.70	1.90	2.90
22 x 5	1.80	2.05	3.10
22 x 6	1.85	2.10	3.35
22 x 8	1.95	2.25	3.75
22 x 10	2.10	2.45	4.05
22 x 12	2.15	2.55	4.30
22 x 14	2.25	2.65	4.65
22 x 16	2.35	2.80	4.90
22 x 18	2.50	3.00	5.20
24 x 4	1.80	2.05	3.10
24 x 5	1.90	2.15	3.25
24 x 6	1.95	2.25	3.55
24 x 8	2.10	2.45	3.95
24 x 10	2.15	2.50	4.20
24 x 12	2.25	2.65	4.45
24 x 14	2.35	2.75	4.75
24 x 16	2.50	3.00	5.20
24 x 18	2.60	3.10	5.30
26 x 4	1.95	2.20	3.35
26 x 5	2.00	2.30	3.50
26 x 6	2.05	2.40	3.75
26 x 8	2.15	2.50	4.10
26 x 10	2.25	2.65	4.45
26 x 12	$2.35	$2.75	$4.75
26 x 14	2.50	3.00	5.20
26 x 16	2.60	3.10	5.30
26 x 18	2.75	3.25	5.50
28 x 4	2.10	2.35	3.55
28 x 5	2.10	2.40	3.70
28 x 6	2.15	2.50	4.00
28 x 8	2.25	2.60	4.30
28 x 10	2.35	2.75	4.75
28 x 12	2.50	2.95	5.05
28 x 14	2.60	3.10	5.30
28 x 16	2.75	3.25	5.50
28 x 18	2.90	3.40	5.70
30 x 4	2.15	2.45	3.70
30 x 5	2.20	2.50	3.90
30 x 6	2.25	2.60	4.20
30 x 8	2.35	2.75	4.55
30 x 10	2.50	2.95	4.95
30 x 12	2.60	3.05	5.25
30 x 14	2.75	3.25	5.50
30 x 16	2.90	3.40	5.70
30 x 18	3.10	3.60	6.45
34 x 6	2.50	2.90	4.70
34 x 8	2.60	3.00	5.00
34 x 10	2.75	3.25	5.50
34 x 12	2.90	3.40	5.70
34 x 14	3.10	3.60	6.45
34 x 16	3.25	3.80	6.90
34 x 18	3.45	4.00	7.40
36 x 4	2.50	2.90	4.65
36 x 6	2.60	3.00	4.90
36 x 8	2.70	3.15	5.15
36 x 10	2.80	3.30	5.60
36 x 12	2.90	3.55	6.45
36 x 14	3.25	3.80	6.90
36 x 16	3.45	4.00	7.40
36 x 18	3.65	4.20	7.90
....	....	....	....

No. 51 Frames are not carried in Stock but are made special to order.

FREE AREAS of U. S. AIR-CONDITIONING REGISTERS and Grilles and Over-all and Daylight Sizes

STYLE Numbers with ● indication are not Furnished in Sizes Larger than 30 x 8.

FREE AREAS IN SQUARE INCHES								
Duct Size	Nos. 103, 109, 115, 118 Furnished only in Listed Sizes	Nos. 153●, 165●, 175●, 177, 153VVL, 177VVI	Nos. 256, 267●, 176●, 178, 178VVI, 219	Nos. 249, 252●, 1152●, 1149, 1149HVI	Nos. 145VVL, 1145VVI, 1145	Daylight Openings, All Styles	Over-all Size Sidewall Registers and Grilles	Over-all Size Baseboard Registers, Baseboard Intakes, 102-B Frame
8 x 4	18	20	21	20	20	7⅛ x 3⅛	9½ x 5½	9⅝ x 5⅝
8 x 5	23	24	26	25	24	7⅛ x 4⅛	9½ x 6½	9⅝ x 6⅝
8 x 6	27	29	32	30	29	7⅛ x 5⅛	9½ x 7½	9⅝ x 7⅝
8 x 8	...	38	42	40	38	7⅛ x 7⅛	9½ x 9½	9⅝ x 9⅝
10 x 4	23	24	26	25	24	9⅛ x 3⅛	11½ x 5½	11⅝ x 5⅝
10 x 5	28	30	33	31	30	9⅛ x 4⅛	11½ x 6½	11⅝ x 6⅝
10 x 6	34	36	39	38	36	9⅛ x 5⅛	11½ x 7½	11⅝ x 7⅝
10 x 8	45	50	55	52	50	9⅛ x 7⅛	11½ x 9½	11⅝ x 9⅝
10 x 10	...	61	66	65	61	9⅛ x 9⅛	11½ x 11½	11⅝ x 11⅝
12 x 4	27	29	32	30	29	11⅛ x 3⅛	13½ x 5½	13⅝ x 5⅝
12 x 5	34	36	39	38	36	11⅛ x 4⅛	13½ x 6½	13⅝ x 6⅝
12 x 6	40	45	50	46	45	11⅛ x 5⅛	13½ x 7½	13⅝ x 7⅝
12 x 8	54	63	68	64	63	11⅛ x 7⅛	13½ x 9½	13⅝ x 9⅝
12 x 10	...	72	80	82	72	11⅛ x 9⅛	13½ x 11½	13⅝ x 11⅝
14 x 4	32	34	37	35	34	13⅛ x 3⅛	15½ x 5½	15⅝ x 5⅝
14 x 5	39	42	47	44	42	13⅛ x 4⅛	15½ x 6½	15⅝ x 6⅝
14 x 6	47	53	59	53	53	13⅛ x 5⅛	15½ x 7½	15⅝ x 7⅝
14 x 8	63	75	79	75	75	13⅛ x 7⅛	15½ x 9½	15⅝ x 9⅝
14 x 10	...	85	96	96	85	15⅛ x 9⅛	15½ x 11½	15⅝ x 11⅝
24 x 4	54	58	65	64	58	23⅛ x 3⅛	25½ x 5½	25⅝ x 5⅝
24 x 5	67	73	80	75	73	23⅛ x 4⅛	25½ x 6½	25⅝ x 6⅝
24 x 6	81	92	105	93	92	23⅛ x 5⅛	25½ x 7½	25⅝ x 7⅝
24 x 8	108	116	130	131	116	23⅛ x 7⅛	25½ x 9½	25⅝ x 9⅝
24 x 10	...	146	161	168	146	23⅛ x 9⅛	25½ x 11½	25⅝ x 11⅝
24 x 12	...	176	192	205	176	23⅛ x 11⅛	25½ x 13½	25⅝ x 13⅝
24 x 14	...	204	233	245	204	23⅛ x 13⅛	25½ x 15½	25⅝ x 15⅝
24 x 20	...	290	318	354	290	23⅛ x 19⅛	25½ x 21½	25⅝ x 21⅝
30 x 4	67	72	79	75	72	29⅛ x 3⅛	31½ x 5½	31⅝ x 5⅝
30 x 5	84	92	108	95	92	29⅛ x 4⅛	31½ x 6½	31⅝ x 6⅝
30 x 6	101	114	127	118	114	29⅛ x 5⅛	31½ x 7½	31⅝ x 7⅝
30 x 8	135	146	176	165	146	29⅛ x 7⅛	31½ x 9½	31⅝ x 9⅝
30 x 10	...	181	199	214	181	29⅛ x 9⅛	31½ x 11½	31⅝ x 11⅝
30 x 12	...	216	241	256	216	29⅛ x 11⅛	31½ x 13½	31⅝ x 13⅝
30 x 14	...	254	279	304	254	29⅛ x 13⅛	31½ x 15½	31⅝ x 15⅝
30 x 16	...	291	321	351	291	29⅛ x 15⅛	31½ x 17½	31⅝ x 17⅝
30 x 18	...	326	357	396	326	29⅛ x 17⅛	31½ x 19½	31⅝ x 19⅝
30 x 20	...	362	395	445	362	29⅛ x 19⅛	31½ x 21½	31⅝ x 21⅝
30 x 24	...	434	476	538	434	29⅛ x 23⅛	31½ x 25½	31⅝ x 25⅝
30 x 30	...	542	591	675	542	29⅛ x 29⅛	31½ x 31½	31⅝ x 31⅝
36 x 12	...	261	293	302	261	35⅛ x 11⅛	37½ x 13½	37⅝ x 13⅝
36 x 18	...	389	429	454	389	35⅛ x 17⅛	37½ x 19½	37⅝ x 19⅝
36 x 24	...	520	560	648	520	35⅛ x 23⅛	37½ x 25½	37⅝ x 25⅝

Definitely specify which is Width and Height Dimension.

THE FOLLOWING ENGINEERING DATA based on Reports of Official Authoritative Tests made under the Supervision of and by Prof. C. E. Kessler, University of Michigan Research Laboratories, Ann Arbor, Michigan.

EXAMPLE:

VOLUME →	**220**	← TAKE NEAREST C.F.M. FACTOR TO THE DESIRED C.F.M.
VELOCITY ↓	**C.F.M.**	
600 F.P.M.		← SELECT A VELOCITY IN KEEPING WITH ROOM CONDITIONS.
GRILLE SIZE	**12x6**	← GRILLE SIZE OR REGISTER SIZE — SEE ALTERNATE SIZE CHART BELOW.
STATIC PRES.	**.012**	← STATIC PRESSURE IN INCHES OF WATER FOR GRILLE OR REGISTER.
THROW	**12**	← APPROXIMATE MEASURABLE AIR-THROW (Lineal Ft.) OF AIR STREAM. (Ref. 1.)
DROP	**3**	← AIR DROP IN FEET FOR MINUS 15° AIR — AT END OF THROW. (Ref. 2.)
FLR. AREA Sq. Ft.	**352**	← APPROXIMATE FLOOR AREA (Sq. Ft.) OF AIR-CONDITIONED SPACE (Ref. 3.)

REFERENCES

1. Measurement of Air Throw taken in center and parallel to Air Stream. The room dimension parallel to the Air Stream should be greater than the Air Throw shown.
2. Air Drop applies to Cooling Installations only. Conditioned air at 15° below room temperature will drop the number of feet designated below course of Air Stream at end of throw.
3. Conditioned Air Space indicated by Floor Area in Square Feet is based on Conditioning Volume contents of space to 7½ feet above floor — allowing for the popular number of air changes of 5 per hour. A well insulated structure, on an average, requires 5 air changes for ventilation. An average structure requires 5 air changes for comfortable heating.

   If other than 5 Air Changes are desired or a different height of volume contents to be Air-Conditioned is necessary use the following formula:

   C.F.M. x 60 (minutes per hour) ÷ (number of desired changes) ÷ (by height of Air-Conditioned space) = Area of Floor Space Register or Grille will accommodate.

ALTERNATE SIZE CHART:

Showing Comparable Sizes of Grilles of approximately same areas, where grilles of different dimensions are required.

LISTED SIZE	1 CHOICE	2 CHOICE	3 CHOICE	4 CHOICE
8 x 4 8 x 5 8 x 6	10 x 4 12 x 4			
10 x 4 10 x 5 10 x 6 10 x 8	8 x 5 8 x 6 12 x 5 16 x 5	12 x 4 20 x 4	14 x 6	
12 x 4 12 x 5 12 x 6 12 x 8 12 x 10	8 x 6 10 x 6 14 x 5 16 x 6 30 x 4	16 x 4 18 x 4 24 x 4 24 x 5	20 x 5 20 x 6	10 x 10
14 x 4 14 x 5 14 x 6 14 x 8 14 x 10	10 x 6 12 x 6 22 x 4 28 x 4 18 x 8	12 x 5 18 x 4 24 x 6	28 x 5	36 x 4
16 x 4 16 x 5 16 x 6 16 x 8 16 x 10	12 x 6 10 x 8 12 x 8 22 x 6 20 x 8	14 x 5 14 x 6 16 x 6 32 x 4 32 x 5	18 x 4 16 x 5 20 x 5	20 x 4 24 x 4
18 x 4 18 x 5	12 x 6 22 x 4	14 x 5	18 x 4	

LISTED SIZE	1 CHOICE	2 CHOICE	3 CHOICE
18 x 6 18 x 8 18 x 10	14 x 8 24 x 6 30 x 6	28 x 4 36 x 4 36 x 5	26 x 5 22 x 8
20 x 4 20 x 5 20 x 6 20 x 8 20 x 10	10 x 8 12 x 8 24 x 5 16 x 10 34 x 6	16 x 5 16 x 6 30 x 4 32 x 5 26 x 8	14 x 6 24 x 4
22 x 4 22 x 5 22 x 6 22 x 8 22 x 10	18 x 5 18 x 6 26 x 5 18 x 10 28 x 8	28 x 4 34 x 4 30 x 6	36 x 5
24 x 4 24 x 5 24 x 6 24 x 8 24 x 10	16 x 6 20 x 6 18 x 8 32 x 6 30 x 8	30 x 4 36 x 4 38 x 5 40 x 6	12 x 12
26 x 4 26 x 5 26 x 6 26 x 8 26 x 10	16 x 8 22 x 6 16 x 10 34 x 6 32 x 8	10 x 10 34 x 4 32 x 5 36 x 6	20 x 5
28 x 4	14 x 8		

LISTED SIZE	1 CHOICE	2 CHOICE	3 CHOICE
28 x 5 28 x 6 28 x 8 28 x 10	14 x 10 34 x 5 22 x 10 38 x 8	18 x 8 42 x 4 44 x 5 48 x 6	24 x 6
30 x 4 30 x 5 30 x 6 30 x 8 30 x 10	20 x 6 26 x 6 36 x 5 24 x 10 38 x 8	24 x 5 38 x 4 46 x 4 40 x 6 44 x 6	48 x 5 50 x 6
32 x 4 32 x 5 32 x 6 32 x 8 32 x 10	16 x 8 20 x 8 24 x 8 26 x 10 40 x 8	22 x 6 16 x 10 48 x 4 42 x 6	40 x 4 38 x 5 50 x 5
34 x 4 34 x 5 34 x 6 34 x 8 34 x 10	14 x 10 28 x 6 42 x 5 28 x 10 42 x 8	42 x 4 50 x 4 46 x 6	
36 x 4 36 x 5 36 x 6 36 x 8 36 x 10	18 x 8 18 x 10 22 x 10 28 x 10 46 x 8	24 x 6 30 x 6 44 x 5 48 x 6	12 x 12

All sizes shown for a given velocity will be within "Average Quiet" decibel rating or below.

SELECTION CHART No. 1 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER OR GRILLE NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
153	Horizontal — Straight	Full-Open
154	Horizontal — 22° Down	Full-Open
155	Vertical — Straight	Full-Open
156	Vertical — 22° R. & 22° L.	Full-Open
157	Vertical — All 22° Right	Full-Open
158	Vertical — All 22° Left	Full-Open
177	Horizontal — Straight or 22° Up or 22° Down	No Valve

VOLUME→ VELOCITY↓	60 C.F.M.	70 C.F.M.	80 C.F.M.	95 C.F.M.	100 C.F.M.	120 C.F.M.	130 C.F.M.	140 C.F.M.	160 C.F.M.	170 C.F.M.	180 C.F.M.	190 C.F.M.	200 C.F.M.			
200 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	28x6	30x6	32x6	34x6	36x6			
Static Pres.	.0065	.004	.0025	.0023	.002	.0018	.0016	.0014	.0013	.0011	.0009	.0008	.0007			
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3			
Drop	2	2	2	2	2	2	2	2	2	2	2	2	2			
Flr. Area Sq. Ft.	96	112	128	152	160	192	208	224	256	272	288	304	320			
300 F.P.M.																
Grille Size	10x5	14x4	10x6	16x4	12x6	14x6	18x5	16x6	18x6	28x4	20x6	32x4	22x6			
Static Pres.	.019	.015	.01	.007	.005	.004	.0035	.003	.002	.0017	.0015	.0013	.001			
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3			
Drop	1	1	1	1	1	1	1	1	1	1	1	1	1			
Flr. Area Sq. Ft.	96	112	128	152	160	192	208	224	256	272	288	304	320			
400 F.P.M.																
Grille Size	10x4	8x6	10x5	14x4	10x6	16x4	12x6	16x5	14x6	18x5	16x6	20x5	18x6			
Static Pres.	.03	.025	.02	.019	.015	.013	.01	.009	.007	.006	.005	.004	.0035			
Throw	4	4	4	4	5	5	5	5	5	5	5	6	6			
Drop	1.5	1.5	1.5	1.5	2	2	2	2	2	2	2	2.5	2.5			
Flr. Area Sq. Ft.	96	112	128	152	160	192	208	224	256	272	288	304	320			
VOLUME→ VELOCITY↓	100 C.F.M.	140 C.F.M.	170 C.F.M.	200 C.F.M.	240 C.F.M.	260 C.F.M.	300 C.F.M.	320 C.F.M.	360 C.F.M.	390 C.F.M.	420 C.F.M.	450 C.F.M.	480 C.F.M.	510 C.F.M.		
500 F.P.M.																
Grille Size	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6	32x6	34x6		
Static Pres.	.024	.021	.015	.01	.008	.0065	.0049	.0037	.0028	.002	.0017	.0013	.001	.0009		
Throw	8	8	8	9	9	9	9	9	10	10	10	10	10	10		
Drop	2.5	2.5	3	3	3	3	3	3	4	4	4	4	4	4		
Flr. Area Sq. Ft.	160	224	272	320	384	416	480	512	576	624	672	720	768	816		
600 F.P.M.																
Grille Size	8x6	14x4	10x6	12x6	14x6	18x5	20x5	18x6	20x6	22x6	24x6	30x5	20x8	22x8		
Static Pres.	.038	.032	.028	.021	.014	.013	.012	.01	.008	.0056	.0045	.004	.003	.002		
Throw	12	12	12	12	12	12	13	13	13	13	13	13	13	13		
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Flr. Area Sq. Ft.	160	224	272	320	384	416	480	512	576	624	672	720	768	816		
700 F.P.M.																
Grille Size	10x4	8x6	14x4	10x6	12x6	16x5	18x5	16x6	18x6	28x4	20x6	22x6	28x5	30x5		
Static Pres.	.05	.046	.04	.035	.028	.022	.018	.016	.014	.013	.012	.008	.006	.0042		
Throw	15	15	15	15	15	15	15	15	15	15	16	16	16	16		
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Flr. Area Sq. Ft.	160	224	272	320	384	416	480	512	576	624	672	720	768	816		
VOLUME→ VELOCITY↓	200 C.F.M.	230 C.F.M.	270 C.F.M.	300 C.F.M.	320 C.F.M.	370 C.F.M.	400 C.F.M.	420 C.F.M.	450 C.F.M.	470 C.F.M.	500 C.F.M.	520 C.F.M.	570 C.F.M.	620 C.F.M.	660 C.F.M.	
800 F.P.M.																
Grille Size	14x4	10x6	12x6	16x5	14x6	16x6	20x5	18x6	28x4	20x6	32x4	22x6	24x6	26x6	28x6	
Static Pres.	.05	.043	.035	.029	.026	.022	.02	.018	.0165	.015	.013	.012	.01	.008	.006	
Throw	18	18	18	18	18	18	18	18	18	18	18	18	18	19	19	
Drop	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5	5	
Flr. Area Sq. Ft.	320	368	432	480	512	592	640	672	720	752	800	832	912	992	1056	
900 F.P.M.																
Grille Size	10x5	14x4	10x6	12x6	16x5	14x6	18x5	16x6	20x5	18x6	28x4	20x6	32x4	28x5	24x6	
Static Pres.	.06	.056	.053	.0435	.038	.033	.029	.027	.025	.023	.021	.02	.018	.016	.014	
Throw	20	20	20	20	20	20	21	21	21	21	21	21	21	21	21	
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Flr. Area Sq. Ft.	320	368	432	480	512	592	640	672	720	752	800	832	912	992	1056	
1000 F.P.M.																
Grille Size	8x6	10x5	14x4	10x6	12x6	16x5	14x6	18x5	16x6	20x5	18x6	28x4	20x6	32x4	28x5	
Static Pres.	.076	.072	.069	.064	.053	.047	.041	.038	.034	.031	.03	.028	.026	.021	.019	
Throw	24	24	24	24	24	24	24	24	24	24	25	25	25	25	25	
Drop	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Flr. Area Sq. Ft.	320	368	432	480	512	592	640	672	720	752	800	832	912	992	1056	
VOLUME→ VELOCITY↓	300 C.F.M.	370 C.F.M.	420 C.F.M.	440 C.F.M.	500 C.F.M.	580 C.F.M.	620 C.F.M.	660 C.F.M.	720 C.F.M.	780 C.F.M.	860 C.F.M.	920 C.F.M.	1000 C.F.M.	1060 C.F.M.	1120 C.F.M.	
1100 F.P.M.																
Grille Size	10x6	12x6	16x5	14x6	16x6	18x6	28x4	20x6	22x6	24x6	26x6	28x6	30x6	32x6	34x6	
Static Pres.	.077	.064	.058	.05	.043	.037	.035	.032	.027	.022	.019	.016	.012	.009	.008	
Throw	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	
Drop	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Flr. Area Sq. Ft.	480	592	672	704	800	928	992	1056	1152	1248	1376	1472	1600	1696	1792	
1200 F.P.M.																
Grille Size	14x4	16x4	12x6	16x5	22x4	16x6	18x6	28x4	20x6	22x6	24x6	26x6	28x6	30x6	34x6	
Static Pres.	.088	.084	.077	.066	.055	.05	.044	.04	.037	.03	.026	.02	.016	.012	.009	
Throw	31	31	31	31	31	31	31	31	31	31	32	32	32	32	32	
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Flr. Area Sq. Ft.	480	592	672	704	800	928	992	1056	1152	1248	1376	1472	1600	1696	1792	
1300 F.P.M.																
Grille Size	10x5	10x6	16x4	12x6	16x5	22x4	16x6	20x5	28x4	20x6	22x6	24x6	26x6	28x6	30x6	
Static Pres.	.2	.15	.1	.09	.074	.066	.056	.05	.046	.04	.035	.03	.025	.02	.018	
Throw	38	38	38	38	38	39	39	39	39	40	40	40	40	40	40	
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Flr. Area Sq. Ft.	480	592	672	704	800	928	992	1056	1152	1248	1376	1472	1600	1696	1792	

SELECTION CHART No. 2 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER OR GRILLE NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
256	22° L. & 22° R. or Straight or All 22° L. or All 22° R.	Straight, Full-Open
178	22° L. & 22° R. or Straight or All 22° L. or All 22° R.	No Valve

VOLUME→ VELOCITY↓	30 C.F.M.	42 C.F.M.	50 C.F.M.	55 C.F.M.	62 C.F.M.	80 C.F.M.	87 C.F.M.	90 C.F.M.	110 C.F.M.	120 C.F.M.	130 C.F.M.	150 C.F.M.	175 C.F.M.	200 C.F.M.	230 C.F.M.	250 C.F.M.
200 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6				
Static Pres.	.01	.007	.0065	.006	.0046	.003	.0023	.0016	.0014	.001	.00095	.0009				
Throw	3	3	3	3	3	3	3	3	3	3	3	3				
Drop	2	2	2	2	2	2	2	2	2	2	2	2				
Flr. Area Sq. Ft.	48	67	80	88	89	128	139	150	176	192	208	240				
300 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	16x4	12x6	14x6	22x4	16x6	18x6				
Static Pres.			.017	.014	.01	.0095	.008	.0075	.005	.004	.0035	.0029				
Throw			3	3	3	3	3	3	3	3	3	3				
Drop			1	1	1	1	1	1	1	1	1	1				
Flr. Area Sq. Ft.			80	88	89	128	139	150	176	192	208	240				
400 F.P.M.																
Grille Size					10x4	8x6	10x5	14x4	10x6	16x4	12x6	14x6	16x6	18x6	20x6	22x6
Static Pres.					.028	.024	.02	.016	.014	.012	.011	.0075	.0055	.004	.003	.0025
Throw					4	4	4	4	5	5	6	6	6	7	7	8
Drop					1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2.5
Flr. Area Sq. Ft.					89	128	139	150	176	192	208	240	280	320	368	400
VOLUME→ VELOCITY↓	70 C.F.M.	90 C.F.M.	100 C.F.M.	130 C.F.M.	160 C.F.M.	180 C.F.M.	215 C.F.M.	240 C.F.M.	280 C.F.M.	300 C.F.M.	340 C.F.M.	360 C.F.M.	400 C.F.M.	430 C.F.M.	440 C.F.M.	480 C.F.M.
500 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6		
Static Pres.	.035	.03	.025	.02	.016	.01	.009	.007	.0055	.004	.003	.0025	.002	.0019		
Throw	8	8	8	8	8	8	9	9	9	9	9	9	10	10		
Drop	2.5	2.5	3	3	3	3	3	3	3	3	3	3	4	4		
Flr. Area Sq. Ft.	120	144	160	208	256	288	344	384	448	480	544	576	640	688		
600 F.P.M.																
Grille Size		10x4	8x6	10x5	10x6	14x5	14x6	18x5	20x5	18x6	20x6	22x6	24x6	30x5	26x6	28x6
Static Pres.		.043	.038	.033	.028	.024	.016	.0145	.013	.0115	.01	.008	.0055	.005	.0045	.004
Throw		12	12	12	12	12	12	12	12	12	13	13	13	13	13	13
Drop		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.		144	160	208	256	288	344	384	448	480	544	576	640	688	704	768
700 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	12x6	16x5	18x5	16x6	18x6	22x5	20x6	32x4	22x6	24x6
Static Pres.			.05	.045	.039	.035	.03	.025	.023	.02	.018	.016	.015	.012	.013	.011
Throw			15	15	15	15	15	15	15	15	15	15	15	15	15	15
Drop			4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.			160	208	256	288	344	384	448	480	544	576	640	688	704	768
VOLUME→ VELOCITY↓	150 C.F.M.	180 C.F.M.	210 C.F.M.	260 C.F.M.	300 C.F.M.	350 C.F.M.	400 C.F.M.	450 C.F.M.	500 C.F.M.	550 C.F.M.	600 C.F.M.	650 C.F.M.	700 C.F.M.	750 C.F.M.	800 C.F.M.	850 C.F.M.
800 F.P.M.																
Grille Size	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6	32x6	34x6	
Static Pres.	.055	.05	.046	.038	.031	.027	.024	.021	.018	.015	.012	.009	.0075	.006	.004	
Throw	18	18	18	18	18	18	18	18	18	18	18	18	19	19	19	
Drop	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5	5	5	
Flr. Area Sq. Ft.	240	288	336	416	480	560	640	720	800	880	960	1040	1120	1200	1280	
900 F.P.M.																
Grille Size	10x4	8x6	14x4	16x4	18x5	14x6	16x6	18x6	20x6	26x5	28x5	30x5	32x5	34x5	36x5	38x5
Static Pres.	.07	.065	.06	.055	.042	.04	.036	.0325	.03	.025	.021	.016	.011	.009	.007	.005
Throw	20	20	20	20	20	20	20	20	21	21	21	21	21	21	21	21
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	240	288	336	416	480	560	640	720	800	880	960	1040	1120	1200	1280	1360
1000 F.P.M.																
Grille Size		10x4	8x6	10x6	16x4	16x5	18x5	16x6	18x6	20x5	26x5	28x5	24x6	26x6	32x5	34x5
Static Pres.		.08	.074	.069	.06	.055	.05	.045	.041	.038	.036	.0325	.03	.026	.024	.02
Throw		24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Drop		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.		288	336	416	480	560	640	720	800	880	960	1040	1120	1200	1280	1360
1100 F.P.M.																
Grille Size			10x4	8x6	10x6	12x6	16x5	18x5	16x6	18x6	20x5	26x5	22x6	24x6	30x5	32x5
Static Pres.			.094	.088	.084	.072	.067	.064	.055	.05	.048	.045	.042	.039	.035	.03
Throw			26	26	26	26	26	26	26	26	26	26	26	26	26	26
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			336	416	480	560	640	720	800	880	960	1040	1120	1200	1280	1360
VOLUME→ VELOCITY↓	200 C.F.M.	230 C.F.M.	280 C.F.M.	320 C.F.M.	390 C.F.M.	460 C.F.M.	500 C.F.M.	540 C.F.M.	580 C.F.M.	610 C.F.M.	650 C.F.M.	690 C.F.M.	730 C.F.M.	760 C.F.M.	800 C.F.M.	870 C.F.M.
1200 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	12x6	14x6	18x5	16x6	22x5	18x6	28x4	20x6	32x4	22x6	28x5	24x6
Static Pres.	.24	.20	.15	.10	.085	.077	.07	.066	.063	.06	.057	.055	.053	.05	.049	.047
Throw	30	30	30	30	31	31	31	31	31	31	31	31	31	32	32	32
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.	320	368	448	512	624	736	800	864	928	976	1040	1104	1168	1216	1280	1344
1300 F.P.M.																
Grille Size		10x4	8x6	14x4	16x4	16x5	14x6	18x5	16x6	18x6	18x6	28x4	20x6	32x4	22x6	28x5
Static Pres.		.29	.24	.20	.15	.10	.093	.087	.08	.075	.071	.068	.066	.064	.06	.058
Throw		38	38	38	38	38	38	38	39	39	39	39	39	40	40	40
Drop		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.		368	448	512	624	736	800	864	928	976	1040	1104	1168	1216	1280	1344
1400 F.P.M.																
Grille Size				10x5	10x6	12x6	16x5	14x6	18x5	16x6	18x6	18x6	22x5	28x4	20x6	32x4
Static Pres.				.30	.25	.20	.018	.15	.01	.095	.09	.086	.083	.08	.078	.074
Throw				44	44	44	44	44	44	44	45	45	45	45	45	45
Drop				7	7	7	7	7	7	7	7	7	7	7	7	7
Flr. Area Sq. Ft.				512	624	736	800	864	928	976	1040	1104	1168	1216	1280	1344

SELECTION CHART No. 3 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
256	22° L. & 22° R. or All 22° L. or All 22° R.	22° Up or 22° Down

VOLUME→	32	37	43	47	53	69	75	77	95	103	112	129	151	172	198	215
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
200 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6				
Static Pres.	.017	.014	.0115	.009	.008	.006	.005	.004	.0033	.0025	.0019	.001				
Throw	3	3	3	3	3	3	3	3	3	3	3	3				
Drop	2	2	2	2	2	2	2	2	2	2	2	2				
Flr. Area Sq. Ft.	42	59	69	75	85	110	120	123	152	165	179	206				
300 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	16x4	12x6	14x6	22x4	16x6	18x6	20x6	22x6		
Static Pres.			.023	.02	.0175	.0145	.0135	.012	.01	.009	.008	.007	.005	.0035		
Throw			3	3	3	3	3	3	3	3	3	3	3	3		
Drop			1	1	1	1	1	1	1	1	1	1	1	1		
Flr. Area Sq. Ft.			69	75	85	110	120	123	152	165	179	206	242	275		
400 F.P.M.																
Grille Size					10x4	8x6	10x5	14x4	10x6	16x4	12x6	14x6	16x6	18x6	20x6	22x6
Static Pres.					.035	.029	.024	.0225	.021	.019	.018	.0145	.013	.011	.009	.008
Throw					4	4	4	4	5	5	6	6	6	7	7	8
Drop					1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2.5
Flr. Area Sq. Ft.					85	110	120	123	152	165	179	206	242	275	317	344
VOLUME→	60	77	86	120	160	170	200	230	270	290	330	360	390	420	440	470
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
500 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6		
Static Pres.	.05	.04	.032	.028	.023	.019	.017	.015	.0135	.012	.0105	.009	.007	.006		
Throw	8	8	8	8	8	8	9	9	9	9	9	9	10	10		
Drop	2.5	2.5	3	3	3	3	3	3	3	3	3	3	4	4		
Flr. Area Sq. Ft.	96	123	138	192	256	272	320	368	432	464	528	576	624	672		
600 F.P.M.																
Grille Size		10x4	8x6	10x5	10x6	14x5	14x6	18x5	20x5	18x6	20x6	22x6	24x6	30x5	26x6	28x6
Static Pres.		.065	.056	.043	.035	.03	.025	.023	.022	.021	.019	.017	.015	.013	.01	.008
Throw		12	12	12	12	12	12	12	12	12	13	13	13	13	13	13
Drop		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.		123	138	192	256	272	320	368	432	464	528	576	624	672	704	756
700 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	12x6	16x5	18x5	16x6	18x6	22x5	20x6	32x4	22x6	24x6
Static Pres.			.08	.074	.06	.044	.038	.032	.029	.028	.026	.024	.0235	.022	.021	.018
Throw			15	15	15	15	15	15	15	15	15	15	15	15	15	15
Drop			4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.			138	192	256	272	320	368	432	464	528	576	624	672	704	756
VOLUME→	140	170	200	250	290	340	390	450	490	540	590	640	690	740	790	840
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
800 F.P.M.																
Grille Size	8x6	10x5	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6	32x6	34x6	36x6
Static Pres.	.08	.074	.056	.047	.037	.035	.032	.028	.026	.023	.02	.017	.015	.012	.01	.008
Throw	18	18	18	18	18	18	18	18	18	18	18	18	19	19	19	19
Drop	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5	5	5	5
Flr. Area Sq. Ft.	224	272	320	400	464	544	624	720	784	864	944	1024	1104	1184	1264	1344
900 F.P.M.																
Grille Size	10x4	8x6	14x4	16x4	12x6	14x6	16x6	18x6	20x6	26x5	28x5	30x5	32x5	34x5	36x5	38x5
Static Pres.	.10	.09	.084	.077	.053	.045	.042	.038	.036	.033	.028	.025	.023	.02	.015	.01
Throw	20	20	20	20	20	20	20	20	21	21	21	21	21	21	21	21
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	224	272	320	400	464	544	624	720	784	864	944	1024	1104	1184	1264	1344
1000 F.P.M.																
Grille Size		10x4	8x6	10x6	16x4	16x5	18x5	16x6	18x6	20x5	22x6	28x5	24x6	26x6	32x5	30x6
Static Pres.		.2	.1	.089	.08	.06	.05	.048	.045	.042	.04	.039	.035	.03	.025	.022
Throw		24	24	24	24	24	24	24	25	25	25	25	25	25	25	25
Drop		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.		272	320	400	464	544	624	720	784	864	944	1024	1104	1184	1264	1344
1100 F.P.M.																
Grille Size			10x4	8x6	10x6	12x6	16x5	18x5	16x6	18x6	20x5	26x5	22x6	24x6	30x5	32x5
Static Pres.			.3	.2	.14	.085	.07	.058	.053	.054	.052	.05	.048	.046	.04	.036
Throw			26	26	26	26	26	26	26	26	26	26	26	26	26	26
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			320	400	464	544	624	720	784	864	944	1024	1104	1184	1264	1344
VOLUME→	380	450	490	530	570	600	640	680	720	750	790	850	860	890	970	1050
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
1200 F.P.M.																
Grille Size	12x6	14x6	18x5	16x6	20x5	18x6	28x4	20x6	32x4	22x6	28x5	24x6	30x5	26x6	28x6	30x6
Static Pres.	.10	.073	.065	.064	.06	.058	.056	.054	.052	.05	.047	.044	.042	.04	.038	.036
Throw	31	31	31	31	31	31	31	31	31	31	32	32	32	32	32	32
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.	608	720	784	848	912	960	1024	1088	1152	1200	1264	1360	1376	1424	1552	1680
1300 F.P.M.																
Grille Size		16x5	14x6	18x5	16x6	20x5	18x6	28x4	20x6	32x4	22x6	28x5	24x6	30x5	26x6	28x6
Static Pres.		.097	.084	.079	.074	.07	.066	.062	.059	.056	.054	.052	.049	.045	.04	.035
Throw		38	38	38	39	39	39	39	39	40	40	40	40	40	40	41
Drop		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.		720	784	848	912	960	1024	1088	1152	1200	1264	1360	1376	1424	1552	1680
1400 F.P.M.																
Grille Size			16x5	14x6	18x5	24x4	20x5	18x6	22x5	28x4	20x6	32x4	28x5	24x6	30x5	26x6
Static Pres.			.105	.093	.086	.08	.073	.067	.063	.06	.057	.055	.051	.049	.044	.04
Throw			44	44	44	45	45	45	45	45	45	45	45	45	46	46
Drop			7	7	7	7	7	7	7	7	7	7	7	7	7.5	7.5
Flr. Area Sq. Ft.			784	848	912	960	1024	1088	1152	1200	1264	1360	1376	1424	1552	1680

SELECTION CHART No. 4 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER OR GRILLE NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
249	½ Straight & ½ 22° Right or Left	Straight, Full-Open
1149	½ Straight ½ 22° R. or L.	No Valve
1145	All 22° Up or 22° Down	No Valve

VOLUME→	60	75	90	100	110	120	130	140	155	170	190	220	240	260	280	300
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
200 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6									
Static Pres.	.004	.0035	.0026	.0015	.0012	.001	.0005									
Throw	3	3	3	3	3	3	3									
Drop	2	2	2	2	2	2	2									
Flr. Area Sq. Ft.	90	96	144	160	180	190	200									
300 F.P.M.																
Grille Size	8x6	10x5	10x6	16x4	12x6	10x8	14x6	16x6	18x6	20x6						
Static Pres.	.0075	.007	.006	.0055	.005	.0045	.0039	.003	.0028	.002						
Throw	3	3	3	3	3	3	3	3	3	3						
Drop	1	1	1	1	1	1	1	1	1	1						
Flr. Area Sq. Ft.	90	96	144	160	180	190	200	220	240	276						
400 F.P.M.																
Grille Size		10x4	8x6	10x5	14x4	10x6	16x4	12x6	10x8	14x6	16x6	18x6	20x6	22x6		
Static Pres.		.017	.015	.013	.011	.009	.008	.007	.006	.005	.0036	.0025	.0018	.001		
Throw		4	4	4	4	5	5	6	6	6	7	7	8	8		
Drop		1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2.5	2.5		
Flr. Area Sq. Ft.		96	144	160	180	190	200	220	240	276	308	352	384	416		
500 F.P.M.																
Grille Size				10x4	8x6	10x5	14x4	10x6	16x4	12x6	10x8	14x6	16x6	18x6	14x8	20x6
Static Pres.				.023	.022	.018	.0155	.0125	.011	.009	.008	.0059	.0045	.0036	.0028	.002
Throw				8	8	8	8	8	8	8	8	9	9	9	9	9
Drop				3	3	3	3	3	3	3	3	3	3	3	3	8
Flr. Area Sq. Ft.				160	180	190	200	220	240	276	308	352	384	416	448	480
VOLUME→	180	220	260	290	330	360	400	430	480	510	560	590	650	670	690	740
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
600 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6	32x6				
Static Pres.	.0135	.012	.007	.0056	.0045	.0037	.003	.0021	.0015	.0012	.001	.0005				
Throw	12	12	12	12	12	12	12	12	12	12	12	12				
Drop	3	3	3	3	3	3	3	3	3	3	3	3				
Flr. Area Sq. Ft.	294	352	416	464	522	576	648	684	760	800	880	943				
700 F.P.M.																
Grille Size	14x4	10x6	12x6	14x6	16x6	18x6	22x5	20x6	22x6	24x6	26x6	28x6	22x8	30x6		
Static Pres.	.023	.021	.015	.0085	.0072	.006	.005	.0045	.0039	.0029	.002	.0015	.001	.0008		
Throw	15	15	15	15	15	15	15	15	15	15	15	15	15	16		
Drop	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Flr. Area Sq. Ft.	294	352	416	464	522	576	648	684	760	800	880	943	1032	1075		
800 F.P.M.																
Grille Size	10x5	14x4	16x4	12x6	14x6	18x5	16x6	18x6	20x6	22x6	28x5	24x6	26x6	20x8	28x6	30x6
Static Pres.	.032	.0289	.023	.0198	.011	.0099	.0087	.0075	.0062	.0054	.0049	.004	.0032	.0026	.002	.001
Throw	18	18	18	18	18	18	18	18	18	18	18	18	18	18	19	19
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	294	352	416	464	522	576	648	684	760	800	880	943	1032	1075	1100	1170
900 F.P.M.																
Grille Size	8x6	10x5	10x6	16x4	12x6	10x8	14x6	16x6	18x6	20x6	22x6	28x5	24x6	30x5	26x6	32x5
Static Pres.	.0412	.0389	.0325	.0295	.0245	.018	.014	.01	.008	.0076	.0063	.006	.0005	.0005	.0004	.0002
Throw	20	20	20	20	20	20	20	20	20	21	21	21	21	21	21	21
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	294	352	416	464	522	576	648	684	760	800	880	943	1032	1075	1100	1170
VOLUME→	290	360	420	480	550	600	660	720	810	860	930	1020				
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.				
1000 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6	40x5				
Static Pres.	.039	.03	.025	.02	.017	.014	.012	.01	.008	.0069	.0052	.0049				
Throw	24	24	24	24	24	24	24	24	24	24	24	24				
Drop	5	5	5	5	5	5	5	5	5	5	5	5				
Flr. Area Sq. Ft.	464	576	666	760	880	965	1054	1142	1320	1362	1496	1628				
1100 F.P.M.																
Grille Size	14x4	16x4	16x5	14x6	16x6	18x6	20x6	22x6	24x6	26x6	28x6	30x6				
Static Pres.	.05	.042	.033	.0285	.0215	.019	.016	.014	.0125	.011	.009	.0075				
Throw	26	26	26	26	26	26	26	26	26	26	26	26				
Drop	5	5	5	5	5	5	5	5	5	5	5	5				
Flr. Area Sq. Ft.	464	576	666	760	880	965	1054	1142	1320	1362	1496	1628				
1200 F.P.M.																
Grille Size		10x6	12x6	16x5	22x4	16x6	18x6	20x6	22x6	24x6	26x6	16x10				
Static Pres.		.053	.045	.037	.032	.026	.021	.0173	.015	.013	.0109	.01				
Throw		30	30	30	30	31	31	31	31	32	32	32				
Drop		6	6	6	6	6	6	6	6	6	6	6				
Flr. Area Sq. Ft.		576	666	760	880	965	1054	1142	1320	1362	1496	1628				
1300 F.P.M.																
Grille Size		14x4	16x4	12x6	14x6	18x5	16x6	18x6	22x5	22x6	24x6	30x5				
Static Pres.		.057	.05	.052	.041	.034	.03	.0265	.0245	.0225	.0195	.017				
Throw		38	38	38	38	39	39	39	40	40	40	40				
Drop		6	6	6	6	6	6	6	6	6	6	6				
Flr. Area Sq. Ft.		576	666	760	880	965	1054	1142	1320	1362	1496	1628				
1400 F.P.M.																
Grille Size			10x6	14x5	12x6	14x6	18x5	20x5	18x6	20x6	22x6	24x6				
Static Pres.			.07	.062	.055	.047	.04	.035	.033	.028	.024	.02				
Throw			44	44	44	45	45	45	45	46	46	47				
Drop			7	7	7	7	7	8	8	8	8	8				
Flr. Area Sq. Ft			666	760	880	965	1054	1142	1320	1362	1496	1628				

SELECTION CHART No. 5 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
249	½ Straight — ½ 22° R. or L.	22° Up or 22° Down

VOLUME→ VELOCITY↓	44 C.F.M.	60 C.F.M.	80 C.F.M.	90 C.F.M.	100 C.F.M.	110 C.F.M.	120 C.F.M	128 C.F.M.	138 C.F.M.	143 C.F.M.	156 C.F.M.	160 C.F.M.	187 C.F.M.	196 C.F.M.	223 C.F.M.	244 C.F.M.
200 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	10x6 .0065 3 2 71	12x6 .005 3 2 96	14x6 .004 3 2 126	16x6 .0038 3 2 144	18x6 .0034 3 2 160	20x6 .003 3 2 176	22x6 .0029 3 2 192	24x6 .0026 3 2 205	30x5 .0024 3 2 220	26x6 .002 3 2 230	28x6 .0018 3 2 250	30x6 .0016 3 2 256	32x6 .0013 3 2 300			
300 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	8x6 .017 3 1 71	10x5 .014 3 1 96	10x6 .011 3 1 126	14x5 .009 3 1 144	12x6 .0078 3 1 160	18x4 .005 3 1 176	14x6 .0045 3 1 192	18x5 .004 3 1 205	16x6 .003 3 1 220	20x5 .0025 3 1 230	18x6 .0021 3 1 250	20x6 .002 3 1 256	22x6 .0018 3 1 300	24x6 .0015 3 1 314	26x6 .0013 3 1 360	28x6 .001 3 1 390
400 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.			10x4 .026 4 1.5 126	8x6 .022 4 1.5 144	10x5 .019 4 1.5 160	10x6 .0155 4 1.5 176	16x4 .013 5 1.5 192	14x5 .012 5 1.5 205	12x6 .011 5 1.5 220	20x4 .0075 6 2 230	14x6 .0055 6 2 250	18x5 .0045 6 2 256	16x6 .004 7 2 300	20x5 .0036 7 2 314	20x6 .0034 7 2 360	22x6 .003 8 2.5 390
VOLUME→ VELOCITY↓	100 C.F.M.	110 C.F.M.	120 C.F.M.	138 C.F.M.	156 C.F.M.	176 C.F.M.	195 C.F.M.	224 C.F.M.	244 C.F.M.	264 C.F.M.	284 C.F.M.	316 C.F.M.	340 C.F.M.	390 C.F.M.	400 C.F.M.	440 C.F.M.
500 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	10x4 .031 8 3 160	8x6 .027 8 3 176	10x5 .024 8 3 192	10x6 .021 8 3 220	14x5 .018 8 3 250	12x6 .016 8 3 282	14x6 .01 8 3 312	16x6 .008 9 3 360	20x5 .007 9 3 390	18x6 .005 9 3 424	20x6 .004 9 3 455	22x6 .0035 9 3 506	24x6 .0032 10 3.5 545	26x6 .003 10 3.5 625	28x6 .0029 10 3.5 640	30x6 .0027 10 3.5 705
600 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.			10x4 .039 12 3 192	10x5 .031 12 3 220	10x6 .027 12 3 250	16x4 .024 12 3 282	14x5 .022 12 3 312	12x6 .021 12 3 360	14x6 .013 12 3 390	18x5 .011 12 3 424	16x6 .008 12 3 455	18x6 .005 12 3 506	20x6 .004 12 3 545	22x6 .0034 12 3 625	24x6 .0025 13 3.5 640	30x5 .0016 13 3.5 705
700 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.				10x4 .048 15 3 220	10x5 .039 15 3 250	14x4 .037 15 3 282	10x6 .034 15 3 312	14x5 .03 15 3 360	12x6 .027 15 3 390	20x4 .021 15 3 424	14x6 .017 15 3 455	18x5 .014 15 3 506	20x5 .01 15 3 545	28x4 .008 15 3 625	20x6 .0065 15 3 640	22x6 .005 16 3 705
VOLUME→ VELOCITY↓	155 C.F.M.	186 C.F.M.	216 C.F.M.	264 C.F.M.	300 C.F.M.	320 C.F.M.	372 C.F.M.	392 C.F.M.	420 C.F.M.	460 C.F.M.	500 C.F.M.	556 C.F.M.	600 C.F.M.	630 C.F.M.	665 C.F.M.	720 C.F.M.
800 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	10x4 .057 18 4 248	10x5 .047 18 4 300	10x6 .042 18 4 346	14x5 .036 18 4 424	20x4 .026 18 4 480	14x6 .017 18 4 514	16x6 .0155 18 4 596	20x5 .0144 18 4 626	18x6 .013 18 4 674	20x6 .01 18 4 740	22x6 .0095 18 4 800	24x6 .008 18 4 900	30x5 .007 18 4 960	26x6 .006 18 4 1010	28x6 .005 18 4 1070	30x6 .0044 18 4 1150
900 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.		10x4 .067 20 4 300	10x5 .057 20 4 346	10x6 .051 20 4 424	14x5 .045 20 4 480	20x4 .034 21 4 514	14x6 .025 21 4 596	22x4 .021 21 4 626	16x6 .019 21 4 674	18x6 .016 21 4 740	28x4 .014 21 4 800	22x6 .012 21 4 900	34x4 .01 22 4.5 960	24x6 .008 22 4.5 1010	30x5 .006 22 4.5 1070	26x6 .005 22 4.5 1150
1000 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.			8x6 .071 24 5 346	14x4 .064 24 5 424	16x4 .056 24 5 480	14x5 .053 24 5 514	20x4 .044 24 5 596	14x6 .033 24 5 626	22x4 .026 24 5 674	16x6 .0235 24 5 740	20x5 .02 24 5 800	28x4 .018 24 5 900	20x6 .017 24 5 960	22x6 .0155 24 5 1010	34x4 .0135 24 5 1070	30x5 .011 24 5 1150
1100 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.			10x4 .087 26 5 346	10x5 .077 26 5 424	14x4 .075 26 5 480	16x4 .067 26 5 514	12x6 .06 26 5 596	20x4 .04 26 5 626	14x6 .032 26 5 674	22x4 .03 26 5 740	16x6 .029 26 5 800	20x5 .027 26 5 900	18x6 .022 26 5 960	20x6 .01 26 5 1010	22x6 .009 26 5 1070	34x4 .007 26 5 1150
VOLUME→ VELOCITY↓	530 C.F.M.	557 C.F.M.	600 C.F.M.	635 C.F.M.	675 C.F.M.	700 C.F.M.	710 C.F.M.	765 C.F.M.	800 C.F.M.	840 C.F.M.	890 C.F.M.	940 C.F.M.	1000 C.F.M.	1080 C.F.M.	1155 C.F.M.	1210 C.F.M.
1200 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	22x4 .036 30 6 850	16x6 .034 31 6 890	20x5 .031 31 6 960	18x6 .03 31 6 1015	28x4 .029 31 6 1100	20x6 .027 31 6 1120	32x4 .026 31 6 1135	22x6 .024 31 6 1220	34x4 .023 31 6 1280	24x6 .021 32 6 1345	30x5 .02 32 6 1420	26x6 .019 32 6 1500	28x6 .017 32 6 1600	30x6 .015 32 6 1730	32x6 .014 32 6 1850	34x6 .01 32 6 1940
1300 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	14x6 .045 38 6 850	22x4 .043 39 6 890	16x6 .04 39 6 960	20x5 .039 39 6 1015	18x6 .038 39 6 1100	22x5 .087 39 6 1120	28x4 .036 39 6 1135	20x6 .035 39 6 1220	32x4 .033 40 6 1280	22x6 .032 40 6 1345	24x6 .031 40 6 1420	30x5 .03 40 6 1520	26x6 .029 40 6 1600	28x6 .027 41 6.5 1730	30x6 .025 41 6.5 1850	46x4 .02 41 6.5 1940
1400 F.P.M.																
Grille Size Static Pres. Throw Drop Flr. Area Sq. Ft.	20x4 .057 45 7 850	14x6 .053 45 7 890	22x4 .052 45 7 960	16x6 .049 45 7 1015	20x5 .047 45 7 1100	18x6 .045 45 8 1120	22x5 .044 45 8 1135	28x4 .043 45 8 1220	20x6 .042 46 8 1280	32x4 .041 46 8 1345	22x6 .04 46 8 1420	24x6 .037 46 8 1520	30x5 .035 46 8 1600	26x6 .03 46 8 1730	28x6 .027 47 8.5 1850	30x6 .024 47 8.5 1940

SELECTION CHART No. 6 — Showing

Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

REGISTER NO.	FACE OR GRILLE-BAR SETTING	VALVE SETTING
249	½ 22° L. — ½ 22° R. or All 22° L. or All 22° R.	22° Up or 22° Down
249	½ 45° L. — ½ 45° R. or All 45° L. or All 45° R.	Straight, Full-Open

VOLUME→	40	54	72	80	90	100	110	116	125	130	142	150	170	178	205	222
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
200 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	30x5	26x6	28x6	30x6	32x6			
Static Pres.	.009	.007	.0045	.004	.0038	.0035	.0032	.003	.0027	.0025	.002	.0015	.001			
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3			
Drop	2	2	2	2	2	2	2	2	2	2	2	2	2			
Flr. Area Sq. Ft.	64	86	115	128	143	160	176	186	200	208	227	240	272			
300 F.P.M.																
Grille Size	8x6	10x5	10x6	14x5	12x6	18x4	14x6	18x5	16x6	20x5	18x6	20x6	22x6	24x6	26x6	28x6
Static Pres.	.018	.016	.014	.012	.011	.008	.0075	.0065	.006	.0055	.005	.004	.0035	.003	.0028	.0027
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Drop	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Flr. Area Sq. Ft.	64	86	115	128	143	160	176	186	200	208	227	240	272	285	328	355
400 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	16x4	14x5	12x6	20x4	14x6	18x5	16x6	20x5	20x6	22x6
Static Pres.			.028	.025	.022	.02	.019	.0175	.016	.013	.011	.01	.009	.0078	.007	.006
Throw			4	4	4	4	4	4	5	5	6	6	6	7	7	7
Drop			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2
Flr. Area Sq. Ft.			115	128	143	160	176	186	200	208	227	240	272	285	328	355
VOLUME→	90	100	110	125	142	160	178	204	222	240	258	284	312	356	370	400
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
500 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	14x5	12x6	14x6	16x6	20x5	18x6	20x6	22x6	24x6	26x6	28x6	30x6
Static Pres.	.0335	.0315	.03	.0265	.024	.022	.015	.012	.0115	.01	.0085	.007	.006	.0057	.005	.004
Throw	8	8	8	8	8	8	8	8	9	9	9	9	9	10	10	10
Drop	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flr. Area Sq. Ft.	144	160	176	200	227	256	285	326	355	384	414	455	500	570	532	640
600 F.P.M.																
Grille Size			10x4	10x5	10x6	16x4	14x5	12x6	14x6	18x5	16x6	18x6	20x6	22x6	24x6	30x5
Static Pres.			.044	.04	.035	.033	.03	.029	.023	.021	.02	.018	.0155	.01	.018	.017
Throw			12	12	12	12	12	12	12	12	12	12	12	12	12	12
Drop			3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flr. Area Sq. Ft.			176	200	227	256	285	326	355	384	414	455	500	570	532	640
700 F.P.M.																
Grille Size				10x4	10x5	14x4	10x6	14x5	12x6	20x4	14x6	18x5	20x5	28x4	20x6	22x6
Static Pres.				.057	.051	.049	.045	.04	.037	.034	.03	.028	.026	.022	.02	.019
Throw				15	15	15	15	15	15	15	15	15	15	15	15	15
Drop				3	3	3	3	3	3	3	3	3	3	3	3	3
Flr. Area Sq. Ft.				200	227	256	285	326	355	384	414	455	500	570	532	640
VOLUME→	142	169	196	240	270	292	338	356	382	418	455	506	544	570	605	650
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
800 F.P.M.																
Grille Size	10x4	10x5	10x6	14x5	20x4	14x6	16x6	20x5	18x6	20x6	22x6	24x6	30x5	26x6	28x6	30x6
Static Pres.	.073	.066	.058	.047	.04	.036	.03	.029	.028	.025	.023	.02	.017	.015	.013	.012
Throw	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Drop	3.5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	227	270	314	384	434	468	542	570	610	670	730	810	870	914	970	1060
900 F.P.M.																
Grille Size		10x4	10x5	10x6	14x5	20x4	14x6	22x4	16x6	18x6	28x4	22x6	34x4	24x6	30x5	26x6
Static Pres.		.088	.081	.072	.064	.049	.043	.04	.037	.033	.03	.029	.027	.026	.024	.02
Throw		20	20	20	20	20	21	21	21	21	21	21	21	21	22	22
Drop		4	4	4	4	4	4	4	4	4	4	4	4	4	5	5
Flr. Area Sq. Ft.		270	314	384	434	468	542	570	610	670	730	810	870	914	970	1060
1000 F.P.M.																
Grille Size			8x6	14x4	16x4	14x5	20x4	14x6	22x4	16x6	20x5	28x4	20x6	22x6	34x4	30x5
Static Pres.			.10	.095	.082	.075	.06	.056	.052	.048	.043	.042	.04	.038	.036	.033
Throw			24	24	24	24	24	24	24	24	24	24	24	24	24	24
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			314	384	434	468	542	570	610	670	730	810	870	914	970	1060
1100 F.P.M.																
Grille Size			10x4	10x5	14x4	16x4	12x6	20x4	14x6	22x4	16x6	20x5	18x6	20x6	22x6	34x4
Static Pres.			.124	.12	.11	.10	.082	.07	.064	.059	.055	.052	.05	.043	.038	.033
Throw			26	26	26	26	26	26	26	26	26	26	26	26	26	26
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			314	384	434	468	542	570	610	670	730	810	870	914	970	1060
VOLUME→	480	507	544	578	615	633	640	695	730	765	810	855	916	986	1050	1111
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
1200 F.P.M.																
Grille Size	22x4	16x6	20x5	18x6	28x4	20x6	32x4	22x6	34x4	24x6	30x5	26x6	28x6	30x6	32x6	34x6
Static Pres.	.07	.067	.064	.06	.057	.053	.049	.044	.040	.036	.032	.03	.024	.018	.012	.01
Throw	30	30	30	31	31	31	31	31	31	31	31	32	32	32	32	32
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.	768	810	870	925	985	1011	1022	1112	1166	1222	1300	1370	1465	1558	1680	1775
1300 F.P.M.																
Grille Size	14x6	22x4	16x6	20x5	18x6	22x5	28x4	20x6	32x4	22x6	24x6	30x5	26x6	28x6	30x6	46x4
Static Pres.	.095	.084	.079	.074	.071	.069	.067	.063	.059	.055	.049	.046	.045	.039	.035	.03
Throw	38	38	38	39	39	39	39	39	39	39	40	40	40	40	41	41
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6.5	6.5
Flr. Area Sq. Ft.	768	810	870	925	985	1011	1022	1112	1166	1222	1300	1370	1465	1558	1680	1775
1400 F.P.M.																
Grille Size	20x4	14x6	22x4	16x6	20x5	18x6	22x5	28x4	20x6	32x4	22x6	24x6	30x5	26x6	28x6	30x6
Static Pres.	.115	.11	.106	.10	.096	.09	.087	.084	.08	.077	.075	.068	.062	.059	.053	.046
Throw	45	45	45	45	45	45	45	45	45	45	46	46	46	46	46	46
Drop	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8
Flr. Area Sq. Ft.	768	810	870	925	985	1011	1022	1112	1166	1222	1300	1370	1465	1558	1680	1775

SELECTION CHART No. 7 — Showing

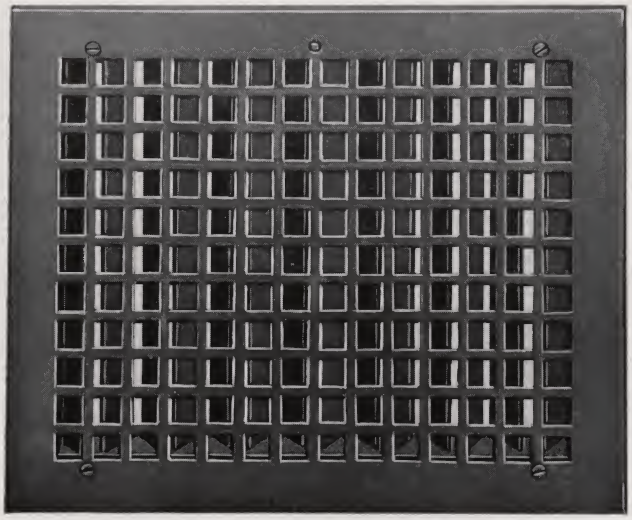
Grille Size, Static Pressure, Air Throw, Drop and Approximate Floor Area of Conditioned Space

GRILLE NO.	FACE OR GRILLE-BAR SETTING	NO VALVES
1149	All 22° L. or All 22° R. or ½ 45° R. or L. ½ Straight	

VOLUME→	45	60	80	90	100	110	120	130	140	145	160	170	190	200	230	250
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
200 F.P.M.																
Grille Size	10x6	12x6	14x6	16x6	18x6	20x6	22x6	24x6	30x5	26x6	28x6	30x6	32x6			
Static Pres.	.004	.0033	.002	.0019	.0017	.0016	.00155	.00150	.0015	.0014	.0013	.0012	.001			
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3			
Drop	2	2	2	2	2	2	2	2	2	2	2	2	2			
Flr. Area Sq. Ft.	72	90	128	144	160	180	190	200	224	232	256	272	304			
300 F.P.M.																
Grille Size	8x6	10x5	10x6	14x5	12x6	16x5	14x6	18x5	16x6	20x5	18x6	20x6	22x6	24x6	26x6	28x6
Static Pres.	.001	.009	.007	.0065	.006	.005	.004	.0036	.003	.0029	.0028	.0025	.0023	.002	.0019	.001
Throw	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Drop	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Flr. Area Sq. Ft.	68	90	128	144	160	180	190	200	224	232	256	272	304	320	368	400
400 F.P.M.																
Grille Size			10x4	8x6	10x5	10x6	16x4	14x5	12x6	20x4	14x6	18x5	16x6	20x5	20x6	22x6
Static Pres.			.018	.016	.0138	.011	.01	.0095	.009	.007	.006	.005	.0045	.0035	.0025	.002
Throw			4	4	4	4	5	5	6	6	6	6	7	7	8	8
Drop			1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2	2.5	2.5
Flr. Area Sq. Ft.			128	144	160	180	190	200	224	232	256	272	304	320	368	400
VOLUME→	100	110	120	140	160	180	200	230	250	270	290	320	350	400	420	450
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
500 F.P.M.																
Grille Size	10x4	8x6	10x5	10x6	14x5	12x6	14x6	16x6	20x5	18x6	20x6	22x6	24x6	26x6	28x6	30x6
Static Pres.	.022	.02	.019	.016	.014	.0125	.009	.007	.006	.0056	.004	.003	.0035	.003	.002	.0018
Throw	8	8	8	8	8	8	8	9	9	9	9	9	10	10	10	10
Drop	3	3	3	3	3	3	3	3	3	3	3	3	3.5	3.5	3.5	3.5
Flr. Area Sq. Ft.	160	180	190	224	256	288	320	368	400	432	464	512	560	640	672	720
600 F.P.M.																
Grille Size			10x4	10x5	10x6	16x4	14x5	12x6	14x6	18x5	16x6	18x6	20x6	22x6	24x6	30x5
Static Pres.			.03	.025	.021	.02	.019	.017	.012	.001	.009	.006	.0049	.004	.003	.0025
Throw			12	12	12	12	12	12	12	12	12	12	12	13	13	13
Drop			3	3	3	3	3	3	3	3	3	3	3	3.5	3.5	3.5
Flr. Area Sq. Ft.			190	224	256	288	320	368	400	432	464	512	560	640	672	720
700 F.P.M.																
Grille Size				10x4	10x5	14x4	10x6	14x5	12x6	20x4	14x6	18x5	20x5	28x4	20x6	22x6
Static Pres.				.038	.035	.03	.027	.024	.0215	.018	.015	.013	.012	.0095	.008	.0062
Throw				15	15	15	15	15	15	15	15	15	15	15	16	16
Drop				3	3	3	3	3	3	3	3	3	3	3	3	3
Flr. Area Sq. Ft.				224	256	288	320	368	400	432	464	512	560	640	672	720
VOLUME→	160	190	220	270	300	330	380	400	430	470	510	570	610	640	680	730
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
800 F.P.M.																
Grille Size	10x4	10x5	10x6	14x5	20x4	14x6	16x6	20x5	18x6	20x6	22x6	24x6	30x5	26x6	28x6	30x6
Static Pres.	.041	.039	.035	.028	.023	.018	.0145	.013	.012	.01	.008	.006	.005	.004	.0026	.002
Throw	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	19
Drop	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Flr. Area Sq. Ft.	256	304	352	432	480	528	608	640	688	752	816	912	976	1024	1088	1168
900 F.P.M.																
Grille Size		10x4	10x5	10x6	14x5	20x4	14x6	22x4	16x6	18x6	28x4	22x6	34x4	24x6	30x5	26x6
Static Pres.		.058	.054	.046	.04	.034	.022	.019	.0175	.015	.013	.01	.009	.008	.007	.005
Throw		20	20	20	20	21	21	21	21	21	21	22	22	22	22	22
Drop		4	4	4	4	4	4	4	4	4	4	4.5	4.5	4 5	4 5	4.5
Flr. Area Sq. Ft.		304	352	432	480	528	608	640	688	752	816	912	976	1024	1088	1168
1000 F.P.M.																
Grille Size			8x6	14x4	16x4	14x5	20x4	14x6	22x4	16x6	20x5	28x4	20x6	22x6	34x4	30x5
Static Pres.			.077	.063	.051	.044	.03	.026	.023	.021	.020	.018	.015	.012	.01	.009
Throw			24	24	24	24	24	24	24	24	24	24	24	24	24	24
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			352	432	480	528	608	640	688	752	816	912	976	1024	1088	1168
1100 F.P.M.																
Grille Size			10x4	10x5	14x4	16x4	12x6	20x4	14x6	22x4	16x6	20x5	18x6	20x6	22x6	34x4
Static Pres.			.095	.085	.079	.064	.05	.04	.032	.028	.025	.023	.021	.017	.014	.01
Throw			26	26	26	26	26	26	26	26	26	26	26	26	26	26
Drop			5	5	5	5	5	5	5	5	5	5	5	5	5	5
Flr. Area Sq. Ft.			352	432	480	528	608	640	688	752	816	912	976	1024	1088	1168
VOLUME→	540	570	610	650	690	710	720	780	820	860	910	960	1030	1110	1180	1250
VELOCITY↓	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.	C.F.M.
1200 F.P.M.																
Grille Size	22x4	16x6	20x5	18x6	28x4	20x6	32x4	22x6	34x4	24x6	30x5	26x6	28x6	30x6	32x6	34x6
Static Pres.	.033	.03	.027	.025	.023	.021	.019	.016	.014	.013	.01	.009	.006	.004	.0035	.003
Throw	30	31	31	31	31	31	31	31	31	32	32	32	32	32	32	32
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Flr. Area Sq. Ft.	864	912	976	1040	1104	1136	1142	1240	1312	1362	1456	1536	1648	1776	1888	2000
1300 F.P.M.																
Grille Size	14x6	22x4	16x6	20x5	18x6	22x5	28x4	20x6	32x4	22x6	24x6	30x5	26x6	28x6	30x6	46x4
Static Pres.	.046	.04	.0355	.032	.03	.029	.0286	.0263	.024	.021	.016	.014	.011	.007	.005	.004
Throw	38	39	39	39	39	39	39	40	40	40	40	40	40	41	41	41
Drop	6	6	6	6	6	6	6	6	6	6	6	6	6	6 5	6.5	6.5
Flr. Area Sq. Ft.	864	912	976	1040	1104	1136	1142	1248	1312	1362	1456	1536	1648	1776	1888	2000
1400 F.P.M.																
Grille Size	20x4	14x6	22x4	16x6	20x5	18x6	22x5	28x4	20x6	32x4	22x6	24x6	30x5	26x6	28x6	30x6
Static Pres.	.052	.055	.05	.045	.04	.035	.033	.031	.03	.028	.024	.02	.017	.0135	.01	.007
Throw	45	45	45	45	45	45	45	46	46	46	46	46	46	46	47	47
Drop	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8.5	8.5
Flr. Area Sq. Ft.	864	912	976	1040	1104	1136	1142	1248	1312	1362	1456	1536	1648	1776	1888	2000

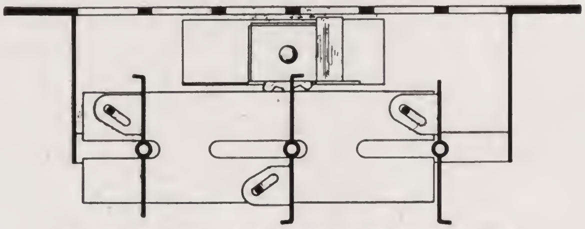
No. 610 U. S. Governair (Volume Air-Controlling) Registers Key Operated

Direct Flow and Air-Controlling (Faces of Perforated Steel Style AA 13/16" Square Mesh 3/16" Bars). Perfect, Positive and Permanent. Renders Positive Air-Control.

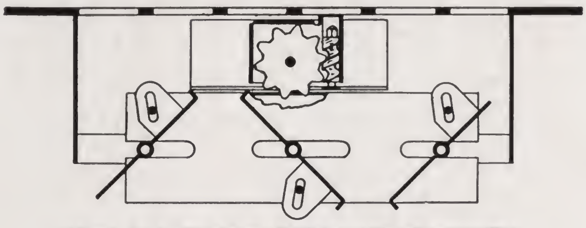


(Patented)

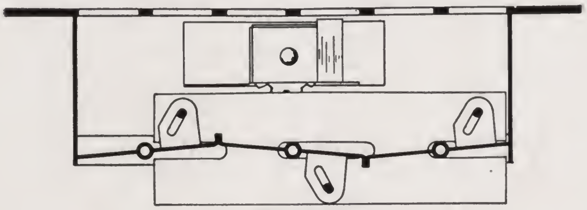
Cross-section views of governair register showing positions of louvers — Open — Half Open and Closed. The positive positioning of louvers permits no deflection of air currents.



Shows U. S. Governair Register with air-controlling louvers opened to full capacity of register.



Shows U. S. Governair Register with air-controlling louvers set to half capacity of register.



(Patented)

Shows U. S. Governair Register with air-controlling louvers closed.

All U. S. Governair Registers are key-operated and when louvers are set in desired position are held fast and permanently in that position by operative lock mechanism.

Louvers can be adjusted to any angle.

List Prices of Prime Coat and Metalac Finishes

Width and Height	List Price	Width and Height	List Price	Width and Height	List Price
6 x 6	$3.80	22 x 6	$9.85	30 x 6	$12.95
8 x 6	4.00	22 x 8	11.45	30 x 8	15.50
8 x 8	3.95	22 x 10	12.40	30 x 10	16.35
10 x 6	4.10	22 x 12	13.60	30 x 12	17.90
10 x 8	4.20	22 x 14	15.50	30 x 14	20.55
10 x 10	5.10	22 x 16	17.65	30 x 16	23.75
12 x 6	4.35	22 x 18	20.25	30 x 18	27.30
12 x 8	4.50	22 x 20	22.65	30 x 20	31.30
12 x 10	5.15	22 x 22	26.45	30 x 22	35.90
12 x 12	6.80	24 x 6	10.65	30 x 24	40.75
14 x 6	5.50	24 x 8	12.45	30 x 26	44.35
14 x 8	6.00	24 x 10	13.35	30 x 28	46.55
14 x 10	6.45	24 x 12	14.95	30 x 30	52.10
14 x 12	7.80	24 x 14	16.75	32 x 6	14.35
14 x 14	9.40	24 x 16	19.00	32 x 8	17.45
16 x 6	6.75	24 x 18	21.35	32 x 10	18.45
16 x 8	7.15	24 x 20	24.55	32 x 12	20.10
16 x 10	7.90	24 x 22	28.45	32 x 14	22.45
16 x 12	8.95	24 x 24	31.90	32 x 16	26.20
16 x 14	10.90	26 x 6	11.50	32 x 18	29.70
16 x 16	13.30	26 x 8	13.50	32 x 20	34.45
18 x 6	7.80	26 x 10	14.40	32 x 22	39.40
18 x 8	9.00	26 x 12	15.75	32 x 24	44.40
18 x 10	9.35	26 x 14	18.15	32 x 26	46.05
18 x 12	10.60	26 x 16	20.85	32 x 28	50.55
18 x 14	12.60	26 x 18	23.90	32 x 30	56.10
18 x 16	14.70	26 x 20	26.90	32 x 32	59.50
18 x 18	17.15	26 x 22	30.90	36 x 6	17.25
20 x 6	8.80	26 x 24	35.20	36 x 8	20.95
20 x 8	10.05	26 x 26	38.25	36 x 10	22.20
20 x 10	10.85	28 x 6	12.20	36 x 12	23.55
20 x 12	12.05	28 x 8	14.60	36 x 14	26.35
20 x 14	14.00	28 x 10	15.35	36 x 16	30.40
20 x 16	16.10	28 x 12	16.85	36 x 18	34.45
20 x 18	18.60	28 x 14	19.40	36 x 20	40.00
20 x 20	21.40	28 x 16	22.25	36 x 22	45.70
		28 x 18	25.55	36 x 24	49.50
		28 x 20	29.35	36 x 26	53.25
		28 x 22	33.55	36 x 28	58.85
		28 x 24	38.30	36 x 30	64.60
		28 x 26	41.45	36 x 32	68.05
		28 x 28	45.25	36 x 36	75.75

To ascertain volume in C. F. M. multiply the actual opening of register face by the velocity of the air per minute in feet. This is based on 13/16 in. square mesh design. U. S. Governair Registers are made in square lattice design and are so listed. Other special perforated designs quoted on application.

The Louvers Operate in Pairs — Toward Each Other delivering full capacity or Straight Ribbon Air Streams of desired volume determined by key operation and setting.

U. S. Governair REGISTERS are designed for Balanced AIR-CONDITIONED Installations where Positive Control and Straight Flow of Air is required.

Fronts or Faces are made of Heavy Gauge Perforated Metal and in Standard Square Lattice Designs unless otherwise specified.

Prices on Solid Brass or Bronze Face Registers or Plated Finishes will be furnished on application.

Furnished also in Special Grille Designs. Prices on application.

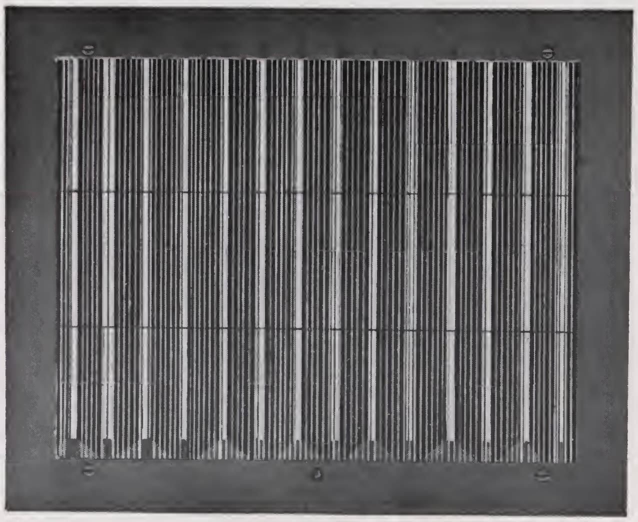
U. S. Governair Registers can also be furnished in any plated Finishes when available for which prices are furnished on application.

No. 678 U. S. Governair (Air-Controlling) Registers with 178 Louver-Type Grilles

With Grille-Bars Fixed for Straight Flow. May be furnished for Directional Flow.

No. 649 U. S. Governair (Air-Controlling) Registers with 1149 Adjustable-Bar Grilles

Specify Wide and High Dimensions — Style No. and Finish.



(Patented)

Equipped with a Perfect Key-Operation that makes a Positive Setting of Valves

Standard Width of Borders is 1½ inches. Extreme Depth of Register Body, Valves Open, sizes up to 18 x 30 inclusive is 3 inches. Extreme Depth of Register Body, Valves Open, sizes 20 inches, either dimension is 4 inches. Gives Straight Flow of Controlled-Air which permits balancing of system at the Register and eliminates Volume Dampers, Diffusers, etc.

Standard Production—Valves and Grille-Bars are Parallel with Short Dimension.

If other arrangement of Valves and Grille-Bars are needed advise definitely which direction the valves and Grille-Bars should set.

The Newly Developed Valve Arrangement insures tight closing. Even Straight Ribbon Air-Flow through Valves when partially open and full even Straight-Flow when completely opened.

List PRICES OF U. S. GOVERNAIR REGISTERS STYLE NOS. 678 and 649. Group 1 — Finishes PRIME COAT and METALAC

Other Finishes on Application.

Duct Size Wide x High	No. 678	No. 649
6 x 6	$ 5.60	$ 6.15
8 x 6	5.75	6.30
8 x 8	5.85	6.45
10 x 6	5.85	6.40
10 x 8	6.00	6.60
10 x 10	6.75	7.45
12 x 6	6.10	6.70
12 x 8	6.30	6.95
12 x 10	7.00	7.80
12 x 12	8.60	9.50
14 x 6	7.15	7.80
14 x 8	7.70	8.40
14 x 10	8.40	9.30
14 x 12	9.55	10.50
14 x 14	11.25	12.30
16 x 6	8.30	9.00
16 x 8	8.95	9.75
16 x 10	9.85	10.80
16 x 12	10.95	12.00
16 x 14	12.75	13.85
16 x 16	15.15	16.30
18 x 6	9.35	10.10
18 x 8	10.85	11.75
18 x 10	11.30	12.35
18 x 12	12.50	13.60
18 x 14	14.45	15.55
18 x 16	16.80	18.05
18 x 18	19.50	20.90

Duct Size Wide x High	No. 678	No. 649
20 x 6	$10.45	$11.30
20 x 8	12.00	13.00
20 x 10	12.90	14.00
20 x 12	14.05	15.20
20 x 14	16.10	17.35
20 x 16	18.55	19.95
20 x 18	21.20	22.70
20 x 20	24.05	25.65
22 x 6	11.35	12.25
22 x 8	13.30	14.35
22 x 10	14.45	15.60
22 x 12	15.75	17.00
22 x 14	17.70	19.00
22 x 16	20.35	21.85
22 x 18	23.15	24.75
22 x 20	26.30	28.30
22 x 22	30.15	32.30
24 x 6	12.30	13.25
24 x 8	14.50	15.60
24 x 10	15.55	16.75
24 x 12	17.25	18.55
24 x 14	19.15	20.55
24 x 16	21.95	23.55
24 x 18	25.10	27.05
24 x 20	28.50	30.60
24 x 22	32.60	34.90
24 x 24	36.20	38.70
26 x 6	13.25	14.25
26 x 8	15.70	16.90
26 x 10	16.80	18.10
26 x 12	18.30	19.70

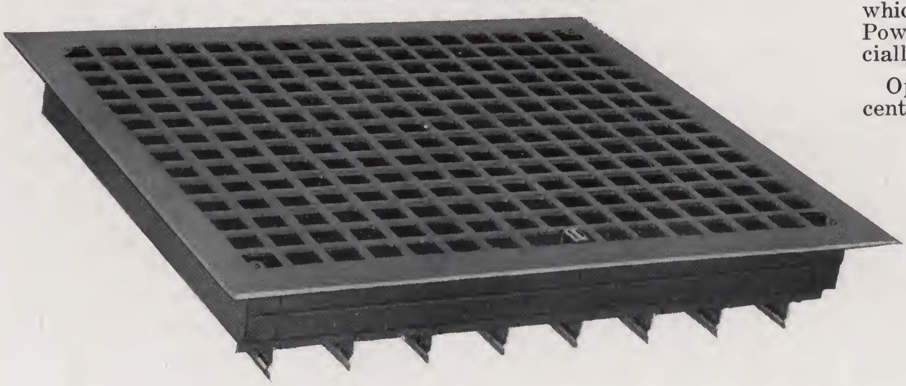
Duct Size Wide x High	No. 678	No. 649
26 x 14	$20.80	$22.30
26 x 16	23.85	25.55
26 x 18	27.80	29.90
26 x 20	31.05	33.30
26 x 22	35.10	37.50
26 x 24	39.45	42.05
26 x 26	42.25	45.00
28 x 6	14.10	15.20
28 x 8	16.80	18.00
28 x 10	18.00	19.40
28 x 12	19.70	21.20
28 x 14	22.30	23.90
28 x 16	25.85	27.85
28 x 18	29.50	31.70
28 x 20	33.65	36.05
28 x 22	38.00	40.60
28 x 24	42.60	45.35
28 x 26	45.45	48.40
28 x 28	49.20	52.40
30 x 6	15.00	16.15
30 x 8	18.00	19.30
30 x 10	19.25	20.70
30 x 12	21.00	22.55
30 x 14	23.60	25.25
30 x 16	27.65	29.80
30 x 18	31.60	33.95
30 x 20	35.85	38.35
30 x 22	40.65	43.40
30 x 24	45.30	48.20
30 x 26	48.55	51.65
30 x 28	52.65	56.80
30 x 30	57.70	62.00

Duct Size Wide x High	No. 678	No. 649
32 x 6	$16.20	$17.45
32 x 8	19.65	21.00
32 x 10	20.95	22.45
32 x 12	22.90	24.55
32 x 14	26.20	28.30
32 x 16	29.95	32.20
32 x 18	34.00	36.50
32 x 20	38.85	41.50
32 x 22	43.85	46.70
32 x 24	48.80	51.90
32 x 26	52.10	56.20
32 x 28	56.50	60.90
32 x 30	61.60	66.20
32 x 32	65.45	70.30
36 x 6	18.80	20.15
36 x 8	22.90	24.35
36 x 10	24.55	26.20
36 x 12	27.00	29.10
36 x 14	30.00	32.30
36 x 16	34.20	36.70
36 x 18	38.70	41.45
36 x 20	44.30	47.20
36 x 22	50.00	53.20
36 x 24	55.65	59.90
36 x 26	59.05	63.60
36 x 28	63.85	68.65
36 x 30	69.35	74.35
36 x 32	74.25	79.75
36 x 36	83.10	89.60

No. 600 U. S. SANI-STEEL MULTIPLE-VALVE REGISTERS **Knob Operated**

No. 600 U. S. Sani-Steel Registers in Standard Production are furnished with No. 12 Gauge Steel Faces in 13/16 Inch Square Mesh 3/16 Inch Fretwork Design. FOR SIDEWALL and CEILING INSTALLATIONS ONLY.

No. 600 U. S. Sani-Steel Register



Multiple Valves run Short Way which furnishes the Easiest and Most Powerful Operation, a feature especially valuable on Large Registers.

Operating Knob is located in the center of Long Dimension.

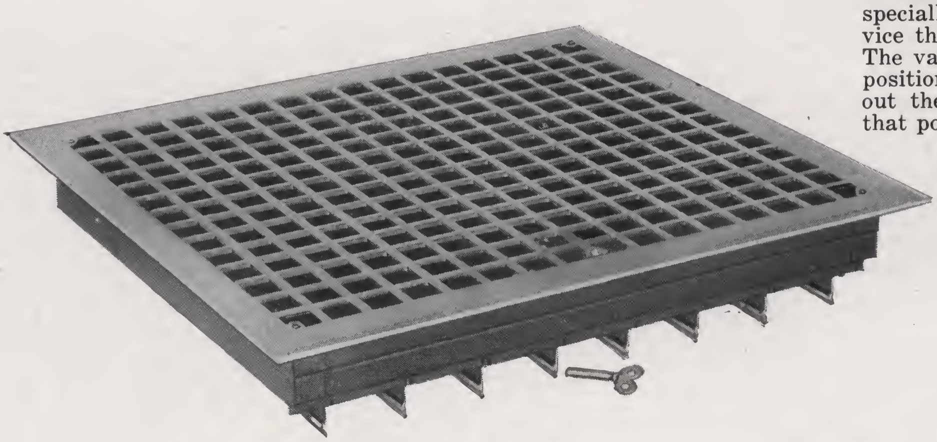
Extreme Standard Overall Dimension is 2 inches over Normal Duct Size.

Extreme Depth of Sizes, up to 14 inches wide inclusive, with Valves Open is 2⅞ inches, 16 inches and wider 3⅞ inches.

COMPLETE LIST PRICES, PAGES 52 and 53.

No. 620 U. S. SANI-STEEL KEY OPERATED MULTIPLE-VALVE REGISTERS

No. 620 U. S. Key Operated Register. FOR SIDEWALL and CEILING INSTALLATIONS ONLY.



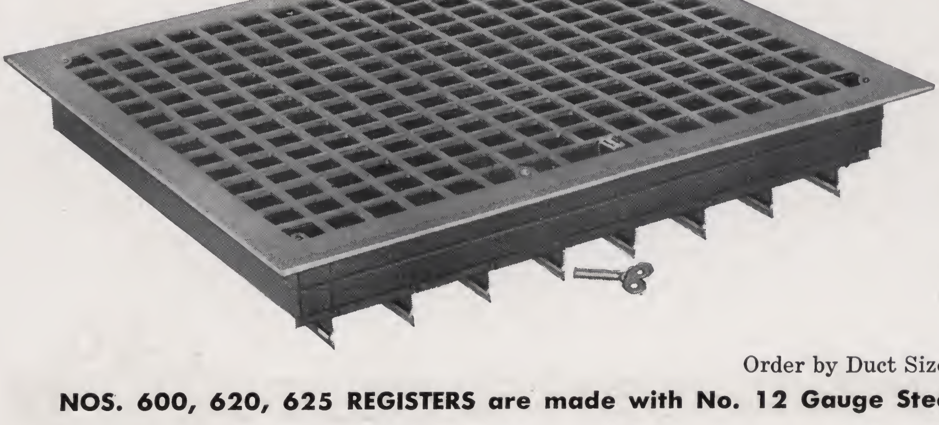
No. 620 U. S. KEY-OPERATED REGISTERS are equipped with a very specially devised Key-Operating Device that is also a POSITIVE LOCK. The valves may be set in any desired position by turning the Lock but without the Key are definitely locked in that position and cannot be moved.

List Prices on pages 52 and 53 show List Prices of regular Multiple-Valve Registers to which add Extra List for Key-Operation as shown on Current Discount Sheet which at time of Catalog issue is $1.25 List.

To operate, press down on Key and turn Key to move Valves. When Key pressure is released Valves Lock in Fixed Position.

No. 625 U. S. SANI-STEEL KEY-LOCK MULTIPLE-VALVE REGISTERS

No. 625 U. S. Key Lock Register. FOR SIDEWALL and CEILING INSTALLATIONS ONLY.



No. 625 U. S. KEY-LOCK REGISTERS are specially adapted for installations in Asylums, Schools, Hospitals and other Public Buildings where it is required that the valves be locked in a fixed position.

This is done with the operating knob by which the valves are positioned and by setting the lock with the set-screw, valves are locked in a fixed position and can be changed only by releasing the Lock with the Key.

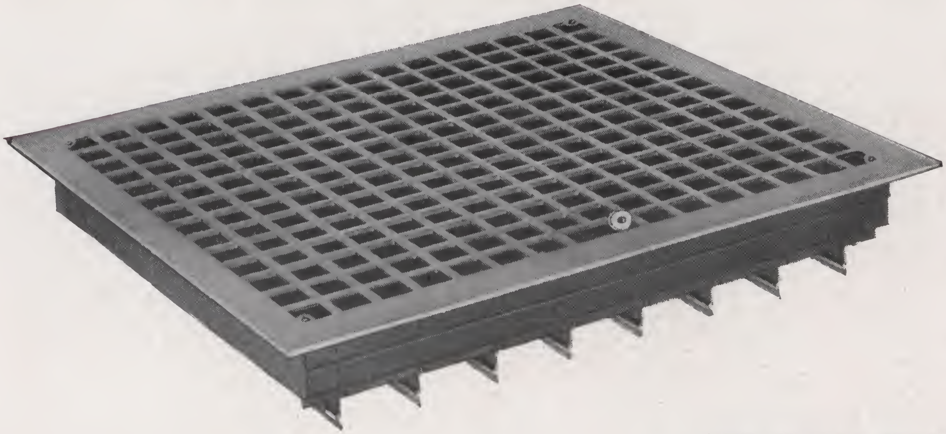
List Prices on pages 52 and 53 show List Prices of regular Multiple-Valve Registers to which add Extra List for Key-Lock Attachment as shown on Current Discount Sheet, which at time of Catalog issue is $1.25 List.

Order by Duct Size, Number and Finish.

NOS. 600, 620, 625 REGISTERS are made with No. 12 Gauge Steel Faces as Standard.

No. 650 U. S. POLE-OPERATED SANI-STEEL MULTIPLE-VALVE REGISTERS

No. 650 U. S. Pole Operated Register. FOR SIDEWALL and CEILING INSTALLATIONS ONLY.



Furnished with No. 12 Gauge Steel Faces — 13/16″ Square 3/16″ Fret Work. Specially adapted to installations where Registers are located beyond manual operation but can be reached with a Pole-Hook.

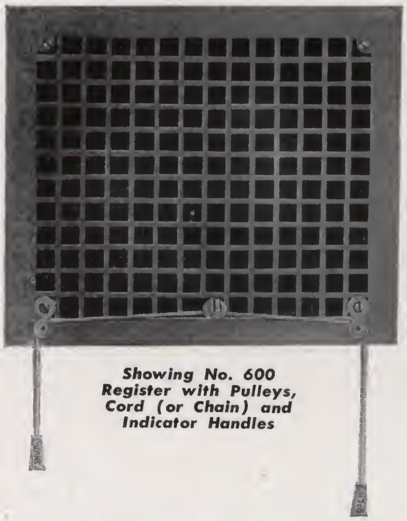
Also generally used in Passenger Cars, Motor Busses, etc.

No. 650 Pole-Operated Register take List Prices of Regular Multiple-Valve Registers, Pages 52 and 53.

Order by Style Number, Duct Size and Finish.

No. 600 U. S. SANI-STEEL REGISTERS with Pulley ATTACHMENT for Ceiling or Sidewall

The Same Pulley Attachments may be used with No. 400 Trussteel Registers



Showing No. 600 Register with Pulleys, Cord (or Chain) and Indicator Handles

U. S. VENTILATING REGISTERS are composed of regular No. 600 or 400 U. S. Steel Floor Registers equipped with No. 10 DU-ALL pulleys when a register is to be installed in the wall or ceiling. Sizes under 16 inches in width have a uniform depth of 2⅞ inches when open, thereby making them very adaptable for shallow ducts or pipe. Sizes 16 inches and over in width have a uniform depth of 3⅞ inches.

No need to specify Ceiling or Sidewall Pulleys — simply specify the Register required "WITH PULLEYS."

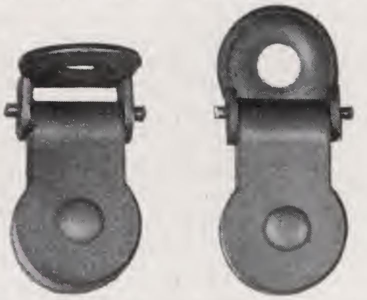
You can install them in Ceiling or Sidewall.

This is made possible by the New U. S. DU-ALL PULLEY which is illustrated and described below on this page.

No. 10 DU-ALL Pulleys

For Ceiling or Sidewall

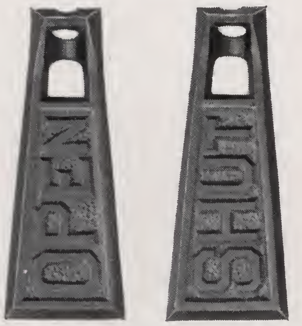
Ceiling Position **Sidewall Position**



One Size and Style for all Register Attachments, Ceiling or Sidewall. Made of Steel, Cadmium Plated.

No. 20 U. S. "OPEN and SHUT" INDICATOR HANDLES

New — Modernistic



Furnished in Cast Iron — Finished in Black Finish. This New Style permits easy attachment of Cord or Chain. Order in Sets of Open and Shut No. 20 Handles.

For Prices of No. 10 Pulleys and No. 20 Indicator Handles see Current Discount Sheet.

LIST PRICES OF MULTIPLE-VALVE FLOOR REGISTERS, FACES AND REGISTER BODIES

SIZE (Duct or Floor Opening)	COMPLETE REGISTERS				Floor Register Bodies	FACES AND REGISTER TOPS (for Register Bodies)			
	Group 1 Finishes	Group 2 Finishes	Group 3 Finishes	Group 4 Finishes		Group 1 Finishes	Group 2 Finishes	Group 3 Finishes	Group 4 Finishes
4 x 6	$ 1.35	$ 1.45	$ 1.70	$ 2.05	$ 0.80	$ 0.70	$ 0.80	$ 1.05	$ 1.40
4 x 8	1.45	1.55	1.85	2.25	.80	.80	.90	1.20	1.60
4 x 10	1.55	1.65	2.00	2.45	.80	.90	1.00	1.35	1.80
4 x 12	1.70	1.85	2.25	2.80	.80	1.10	1.25	1.65	2.20
4 x 14	2.25	2.40	2.95	3.65	1.10	1.40	1.55	2.10	2.80
4 x 18	3.50	3.75	4.55	5.55	1.85	2.05	2.30	3.10	4.10
4 x 24	5.20	5.55	6.60	8.00	3.00	2.80	3.15	4.20	5.60
4 x 30	6.65	7.05	8.25	9.85	4.20	3.20	3.60	4.80	6.40
4 x 32	7.55	8.00	9.45	11.35	4.60	3.80	4.25	5.70	7.60
5 x 8	1.50	1.60	1.95	2.35	.80	.85	.95	1.30	1.70
5 x 10	1.60	1.70	2.10	2.55	.80	.95	1.05	1.45	1.90
5 x 12	1.75	1.90	2.35	2.90	.80	1.15	1.30	1.75	2.30
5 x 14	2.45	2.65	3.20	3.95	1.20	1.50	1.70	2.25	3.00
5 x 16	3.15	3.35	4.05	4.95	1.70	1.80	2.00	2.70	3.60
5 x 18	3.90	4.15	5.00	6.05	2.20	2.15	2.40	3.25	4.30
6 x 6	1.45	1.55	1.85	2.25	.80	.80	.90	1.20	1.60
6 x 8	1.55	1.65	2.00	2.45	.80	.90	1.00	1.35	1.80
6 x 9	1.60	1.70	2.10	2.55	.80	.95	1.05	1.45	1.90
6 x 10	1.60	1.70	2.10	2.60	.80	1.00	1.10	1.50	2.00
6 x 12	1.80	1.95	2.40	3.00	.80	1.20	1.35	1.80	2.40
6 x 14	2.55	2.75	3.35	4.10	1.30	1.55	1.75	2.35	3.10
6 x 16	3.40	3.65	4.35	5.30	1.90	1.90	2.15	2.85	3.80
6 x 18	4.15	4.40	5.25	6.35	2.40	2.20	2.45	3.30	4.40
6 x 20	4.95	5.25	6.20	7.45	3.00	2.50	2.80	3.75	5.00
6 x 24	6.30	6.65	7.80	9.30	4.00	3.00	3.35	4.50	6.00
6 x 30	8.25	8.65	9.95	11.65	5.75	3.40	3.80	5.10	6.80
6 x 36	11.00	11.60	13.45	15.90	7.30	4.90	5.50	7.35	9.80
8 x 8	1.60	1.70	2.10	2.60	.80	1.00	1.10	1.50	2.00
8 x 10	1.70	1.85	2.25	2.80	.80	1.10	1.25	1.65	2.20
8 x 12	1.90	2.05	2.55	3.20	.85	1.30	1.45	1.95	2.60
8 x 14	2.95	3.15	3.80	4.60	1.60	1.65	1.85	2.50	3.30
8 x 16	3.85	4.10	4.85	5.85	2.30	2.00	2.25	3.00	4.00
8 x 18	5.05	5.35	6.25	7.45	3.20	2.40	2.70	3.60	4.80
8 x 20	6.05	6.35	7.40	8.75	4.00	2.70	3.00	4.05	5.40
8 x 24	7.90	8.30	9.50	11.10	5.60	3.20	3.60	4.80	6.40
8 x 30	10.45	10.90	12.25	14.05	8.00	3.60	4.05	5.40	7.20
8 x 36	14.05	14.65	16.65	19.25	10.40	5.20	5.80	7.80	10.40
9 x 12	2.15	2.35	2.90	3.65	.90	1.50	1.70	2.25	3.00
9 x 14	3.20	3.40	4.15	5.05	1.70	1.85	2.05	2.80	3.70
10 x 10	2.25	2.45	3.05	3.85	.90	1.60	1.80	2.40	3.20
10 x 12	2.40	2.60	3.25	4.10	.95	1.70	1.90	2.55	3.40
10 x 14	3.40	3.65	4.40	5.40	1.80	2.00	2.25	3.00	4.00
10 x 16	4.50	4.80	5.65	6.80	2.70	2.30	2.60	3.45	4.60
10 x 18	5.55	5.85	6.90	8.25	3.45	2.70	3.00	4.05	5.40
10 x 20	6.70	7.05	8.20	9.70	4.45	3.00	3.35	4.50	6.00
10 x 22	7.85	8.25	9.50	11.15	5.40	3.30	3.70	4.95	6.60
10 x 24	8.65	9.05	10.35	12.05	6.20	3.40	3.80	5.10	6.80
10 x 30	11.30	11.75	13.20	15.05	8.80	3.75	4.20	5.65	7.50
10 x 36	15.20	15.85	17.95	20.70	11.40	5.50	6.15	8.25	11.00
12 x 12	3.60	3.85	4.70	5.80	1.80	2.20	2.45	3.30	4.40
12 x 14	4.25	4.55	5.50	6.75	2.20	2.50	2.80	3.75	5.00
12 x 16	5.25	5.55	6.60	7.95	3.15	2.70	3.00	4.05	5.40
12 x 18	6.45	6.80	7.95	9.45	4.15	3.00	3.35	4.50	6.00
12 x 20	7.55	7.95	9.20	10.85	5.10	3.30	3.70	4.95	6.60
12 x 22	8.80	9.25	10.60	12.40	6.20	3.60	4.05	5.40	7.20
12 x 24	9.75	10.20	11.65	13.50	7.10	3.75	4.20	5.65	7.50
12 x 26	10.65	11.10	12.60	14.50	8.00	3.85	4.30	5.80	7.70
12 x 28	11.65	12.10	13.65	15.60	9.00	3.95	4.40	5.95	7.90
12 x 30	12.60	13.10	14.60	16.60	10.00	4.00	4.50	6.00	8.00
12 x 36	16.90	17.60	19.80	22.70	13.00	5.80	6.50	8.70	11.60

Order Multiple-Valve Floor Registers and Faces by Floor or Duct Opening Size and Style Number. Abbreviations of Standard Finishes of Groups 1 - 2 - 3 - 4.

Group-1-Finishes	Group-2-Finishes	Group-3-Finishes	Group-4-Finishes
B.J. — Black Japan	W. — White	S.BZ — Statuary Bronze	C.H. — Chrome
MT. — Metalac	Oak		
P.C. — Prime Coat	IV. — Ivory		

Plated Finishes not available — but may be at a later date.

LIST PRICES OF MULTIPLE-VALVE FLOOR REGISTERS, FACES AND REGISTER BODIES

SIZE (Duct or Floor Opening)	COMPLETE REGISTERS				Floor Register Bodies	FACES AND REGISTER TOPS (for Register Bodies)			
	Group 1 Finishes	Group 2 Finishes	Group 3 Finishes	Group 4 Finishes		Group 1 Finishes	Group 2 Finishes	Group 3 Finishes	Group 4 Finishes
14 x 14	$ 5.65	$ 6.00	$ 7.10	$ 8.55	$ 3.40	$ 2.90	$ 3.25	$ 4.35	$ 5.80
14 x 16	6.85	7.20	8.40	9.95	4.50	3.10	3.45	4.65	6.20
14 x 18	8.10	8.50	9.80	11.50	5.60	3.40	3.80	5.10	6.80
14 x 20	9.35	9.80	11.20	13.05	6.70	3.70	4.15	5.55	7.40
14 x 22	10.55	11.00	12.50	14.45	7.80	3.90	4.35	5.85	7.80
14 x 24	11.60	12.10	13.65	15.70	8.80	4.10	4.60	6.15	8.20
14 x 26	12.85	13.35	15.00	17.15	10.00	4.30	4.80	6.45	8.60
14 x 28	13.95	14.50	16.20	18.45	11.00	4.50	5.05	6.75	9.00
14 x 30	14.95	15.50	17.25	19.55	12.00	4.60	5.15	6.90	9.20
14 x 32	16.75	17.40	19.45	22.15	13.20	5.40	6.05	8.10	10.80
14 x 36	19.60	20.40	22.85	26.10	15.30	6.50	7.30	9.75	13.00
14 x 40	22.60	23.50	26.45	30.30	17.40	7.70	8.60	11.55	15.40
14 x 48	28.35	29.55	33.35	38.35	21.50	10.00	11.20	15.00	20.00
16 x 16	8.65	9.10	10.45	12.25	6.00	3.60	4.05	5.40	7.20
16 x 18	9.90	10.35	11.80	13.70	7.20	3.80	4.25	5.70	7.60
16 x 20	11.15	11.65	13.15	15.15	8.40	4.00	4.50	6.00	8.00
16 x 22	12.50	13.00	14.60	16.70	9.70	4.20	4.70	6.30	8.40
16 x 24	13.70	14.25	15.90	18.10	10.80	4.40	4.95	6.60	8.70
16 x 26	15.10	15.70	17.50	19.90	12.00	4.80	5.40	7.20	9.60
16 x 28	16.55	17.15	19.15	21.75	13.20	5.20	5.80	7.80	10.40
16 x 30	17.90	18.55	20.65	23.40	14.40	5.50	6.15	8.25	11.00
16 x 32	19.60	20.35	22.70	25.80	15.60	6.20	6.95	9.30	12.40
16 x 36	22.75	23.65	26.40	30.05	18.00	7.30	8.20	10.95	14.60
16 x 40	25.90	26.90	30.15	34.40	20.30	8.50	9.50	12.75	17.00
16 x 42	27.55	28.65	32.10	36.65	21.50	9.10	10.20	13.65	18.20
18 x 18	11.90	12.40	14.00	16.10	9.00	4.20	4.70	6.30	8.40
18 x 20	13.15	13.70	15.35	17.55	10.20	4.40	4.95	6.60	8.80
18 x 22	14.60	15.15	16.90	19.20	11.60	4.60	5.15	6.90	9.20
18 x 24	16.00	16.60	18.40	20.80	13.00	4.80	5.40	7.20	9.60
18 x 28	19.25	19.95	22.15	25.05	15.60	5.80	6.50	8.70	11.60
18 x 30	20.80	21.55	23.85	26.90	17.00	6.10	6.85	9.15	12.20
18 x 34	24.55	25.45	28.35	32.15	19.70	7.60	8.50	11.40	15.20
18 x 36	26.10	27.05	30.10	34.10	21.00	8.00	8.95	12.00	16.00
18 x 40	29.60	30.70	34.20	38.80	23.70	9.20	10.30	13.80	18.40
18 x 48	37.35	38.85	43.60	49.85	29.00	12.50	14.00	18.75	25.00
20 x 20	15.30	15.90	17.80	20.30	12.00	5.00	5.60	7.50	10.00
20 x 22	16.90	17.50	19.50	22.10	13.60	5.20	5.80	7.80	10.40
20 x 24	18.55	19.20	21.25	23.95	15.20	5.40	6.05	8.10	10.80
20 x 26	20.45	21.15	23.40	26.35	16.80	5.90	6.60	8.85	11.80
20 x 28	22.40	23.15	25.60	28.80	18.50	6.40	7.15	9.60	12.80
20 x 30	24.05	24.85	27.40	30.75	20.00	6.70	7.50	10.05	13.40
20 x 32	26.30	27.20	30.10	33.90	21.60	7.60	8.50	11.40	15.20
20 x 34	28.55	29.55	32.80	37.05	23.20	8.50	9.50	12.75	17.00
20 x 36	30.40	31.50	34.90	39.40	24.80	9.00	10.10	13.50	18.00
22 x 22	19.80	20.50	22.80	25.80	16.00	6.00	6.70	9.00	12.00
22 x 24	21.60	22.35	24.70	27.80	17.80	6.20	6.95	9.30	12.40
22 x 26	23.50	24.30	26.85	30.20	19.40	6.70	7.50	10.05	13.40
22 x 28	25.65	26.55	29.30	32.95	21.20	7.30	8.20	10.95	14.60
22 x 30	27.65	28.55	31.50	35.35	23.00	7.70	8.60	11.55	15.40
22 x 32	30.05	31.10	34.40	38.75	24.70	8.70	9.75	13.05	17.40
22 x 34	32.50	33.70	37.40	42.30	26.30	9.80	11.00	14.70	19.60
22 x 36	34.65	35.90	39.90	45.15	28.00	10.50	11.75	15.75	21.00
24 x 24	24.30	25.15	27.80	31.30	20.00	7.00	7.85	10.50	14.00
24 x 30	31.15	32.20	35.55	39.95	25.80	8.80	9.85	13.20	17.60
24 x 36	38.60	40.05	44.60	50.60	30.90	12.00	13.45	18.00	24.00
26 x 26	29.60	30.65	33.95	38.30	24.20	8.70	9.75	13.05	17.40
28 x 28	34.90	36.20	40.30	45.70	28.00	10.80	12.10	16.20	21.60
28 x 30	37.25	38.60	42.95	48.65	30.00	11.40	12.75	17.10	22.80
30 x 30	41.15	42.70	47.65	54.15	32.70	13.00	14.55	19.50	26.00
36 x 36	60.30	62.70	70.30	80.30	47.00	20.00	22.40	30.00	40.00

Order Multiple-Valve Floor Registers and Faces by Floor or Duct Opening Size and Style Number. Abbreviations of Standard Finishes of Groups 1 - 2 - 3 - 4.

EXTREME DIMENSIONS AND FREE AREAS OF NO. 405 TRUSSTEEL FACES

SIZE (Duct or Floor Opening)	Extreme Size of Register Face	No. 405 Free Area Square Inches
4 x 6	5⅞ x 7⅞	19
4 x 8	5⅞ x 9⅞	26
4 x 10	5⅞ x 11⅞	33
4 x 12	5⅞ x 13⅞	39
4 x 14	5⅞ x 15⅞	46
4 x 16	5⅞ x 17⅞	53
4 x 24	5⅞ x 25⅞	79
4 x 30	5⅞ x 31⅞	99
4 x 32	5⅞ x 33⅞	105
5 x 8	6⅞ x 9⅞	33
5 x 10	6⅞ x 11⅞	41
5 x 12	6⅞ x 13⅞	49
5 x 14	6⅞ x 15⅞	57
5 x 16	6⅞ x 17⅞	65
5 x 18	6⅞ x 19⅞	74
6 x 6	7⅞ x 7⅞	30
6 x 8	7⅞ x 9⅞	39
6 x 9	7⅞ x 10⅞	44
6 x 10	7⅞ x 11⅞	49
6 x 12	7⅞ x 13⅞	59
6 x 14	7⅞ x 15⅞	67
6 x 16	7⅞ x 17⅞	79
6 x 18	7⅞ x 19⅞	89
6 x 20	7⅞ x 21⅞	99
6 x 24	7⅞ x 25⅞	118
6 x 30	7⅞ x 31⅞	148
6 x 36	7⅞ x 37⅞	177
8 x 8	9⅞ x 9⅞	52
8 x 10	9⅞ x 11⅞	65
8 x 12	9⅞ x 13⅞	79
8 x 14	9⅞ x 15⅞	92
8 x 16	9⅞ x 17⅞	105
8 x 18	9⅞ x 19⅞	118
8 x 20	9⅞ x 21⅞	131
8 x 24	9⅞ x 25⅞	157
8 x 30	9⅞ x 31⅞	197
8 x 36	9⅞ x 37⅞	236
9 x 12	10⅞ x 13⅞	89
9 x 14	10⅞ x 15⅞	103
10 x 10	11⅞ x 11⅞	82
10 x 12	11⅞ x 13⅞	99
10 x 14	11⅞ x 15⅞	115
10 x 16	11⅞ x 17⅞	131
10 x 18	11⅞ x 19⅞	147
10 x 20	11⅞ x 21⅞	164
10 x 22	11⅞ x 23⅞	180
10 x 24	11⅞ x 25⅞	197
10 x 30	11⅞ x 31⅞	246
10 x 36	11⅞ x 37⅞	295
12 x 12	13⅞ x 13⅞	118
12 x 14	13⅞ x 15⅞	138
12 x 16	13⅞ x 17⅞	158
12 x 18	13⅞ x 19⅞	177
12 x 20	13⅞ x 21⅞	196
12 x 22	13⅞ x 23⅞	216
12 x 24	13⅞ x 25⅞	236
12 x 26	13⅞ x 27⅞	256
12 x 28	13⅞ x 29⅞	276
12 x 30	13⅞ x 31⅞	295
12 x 36	13⅞ x 37⅞	354
14 x 14	15⅞ x 15⅞	161
14 x 16	15⅞ x 17⅞	184
14 x 18	15⅞ x 19⅞	206
14 x 20	15⅞ x 21⅞	230
14 x 22	15⅞ x 23⅞	252
14 x 24	15⅞ x 25⅞	276
14 x 26	15⅞ x 27⅞	298
14 x 28	15⅞ x 29⅞	322
14 x 30	15⅞ x 31⅞	344
14 x 32	15⅞ x 33⅞	368
14 x 36	15⅞ x 37⅞	413
14 x 40	15⅞ x 41⅞	460
14 x 48	15⅞ x 49⅞	550
16 x 16	17⅞ x 17⅞	210
16 x 18	17⅞ x 19⅞	236
16 x 20	17⅞ x 21⅞	262
16 x 22	17⅞ x 23⅞	288
16 x 24	17⅞ x 25⅞	313
16 x 26	17⅞ x 27⅞	341
16 x 28	17⅞ x 29⅞	367
16 x 30	17⅞ x 31⅞	394
16 x 32	17⅞ x 33⅞	420
16 x 36	17⅞ x 37⅞	473
18 x 18	19⅞ x 19⅞	266
18 x 20	19⅞ x 21⅞	295
18 x 22	19⅞ x 23⅞	325
18 x 24	19⅞ x 25⅞	354
18 x 28	19⅞ x 29⅞	413
18 x 30	19⅞ x 31⅞	443
18 x 36	19⅞ x 37⅞	532
20 x 20	21⅞ x 21⅞	328
20 x 22	21⅞ x 23⅞	360
20 x 24	21⅞ x 25⅞	394
20 x 26	21⅞ x 27⅞	426
20 x 28	21⅞ x 29⅞	458
20 x 30	21⅞ x 31⅞	493
20 x 32	21⅞ x 33⅞	525
20 x 34	21⅞ x 35⅞	557
20 x 36	21⅞ x 37⅞	590
22 x 22	23⅞ x 23⅞	398
22 x 24	23⅞ x 25⅞	432
22 x 26	23⅞ x 27⅞	468
22 x 28	23⅞ x 29⅞	505
22 x 30	23⅞ x 31⅞	541
22 x 32	23⅞ x 33⅞	576
22 x 36	23⅞ x 37⅞	648
24 x 24	25⅞ x 25⅞	473
24 x 30	25⅞ x 31⅞	591
24 x 36	25⅞ x 37⅞	708
26 x 26	27⅞ x 27⅞	554
28 x 28	29⅞ x 29⅞	643
28 x 30	29⅞ x 31⅞	689
30 x 30	31⅞ x 31⅞	738
36 x 36	37⅞ x 37⅞	1063

Above Extreme Dimensions cannot be increased — but may be reduced — With Flat Borders.

Extreme Dimensions of Faces of No. 600 Series Registers are 2 inches greater each dimension than the Catalog or Duct Size.

LIST PRICES of U. S. COLD-AIR FACES and REGISTER TOPS in Group 1 Finishes

For GROUP 2 Finishes — MULTIPLY LIST by Factor 1.12.
For GROUP 3 Finishes — MULTIPLY LIST by Factor 1.5.
For GROUP 4 Finishes — MULTIPLY LIST by Factor 2.

To Determine Complete Register List Prices add Body Lists as on Page 56 to Register Top Lists on This Page and Deduct 10%.

WIDTH, INCHES	LENGTH, Inches												
	4 5 6	7 8	9	10	11 12	13 14	15	16	17 18	19 20	21 22	23 24	25 26
4	.70	.80	.85	.90	1.10	1.40	1.60	1.70	2.05	2.40	2.70	2.80	2.95
5	.70	.85	.90	.95	1.15	1.50	1.65	1.80	2.15	2.45	2.80	2.90	3.05
6	.80	.90	.95	1.00	1.20	1.55	1.70	1.90	2.20	2.50	2.85	3.00	3.10
7		.95	1.00	1.05	1.25	1.60	1.80	1.95	2.30	2.60	3.00	3.10	3.25
8		1.00	1.05	1.10	1.30	1.65	1.85	2.00	2.40	2.70	3.10	3.20	3.40
9			1.30	1.40	1.50	1.85	2.00	2.15	2.55	2.85	3.20	3.30	3.50
10				1.60	1.70	2.00	2.20	2.30	2.70	3.00	3.30	3.40	3.60
11–12					2.20	2.50	2.60	2.70	3.00	3.30	3.60	3.75	3.85
13–14						2.90	3.00	3.10	3.40	3.70	3.90	4.10	4.30
15–16							3.60	3.60	3.80	4.00	4.20	4.40	4.80
17–18									4.20	4.40	4.60	4.80	5.40
19–20										5.00	5.20	5.40	5.90
21–22											6.00	6.20	6.70
23–24												7.00	7.70
25–26													8.70

WIDTH, INCHES	LENGTH, Inches													
	27	28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 46	47 48	49 50	List per Lineal Inch Over 50" Lengths
4	3.10	3.10	3.20	3.80	4.10	4.30	4.55	4.80	5.05	5.30	5.50	5.75	6.00	.12
5	3.20	3.20	3.30	3.90	4.60	4.75	4.90	5.10	5.30	5.55	5.75	6.00	6.25	.125
6	3.30	3.30	3.40	4.00	4.70	4.90	5.10	5.30	5.50	5.75	6.00	6.25	6.50	.13
7	3.40	3.40	3.50	4.15	4.90	5.05	5.40	5.60	5.90	6.15	6.45	6.70	7.00	.14
8	3.50	3.50	3.60	4.30	5.10	5.20	5.70	6.00	6.30	6.60	6.90	7.20	7.50	.15
9	3.60	3.60	3.70	4.40	5.20	5.35	5.90	6.20	6.50	6.80	7.15	7.45	7.75	.155
10	3.70	3.70	3.75	4.50	5.30	5.50	6.40	6.60	6.95	7.25	7.60	7.90	8.25	.165
11–12	3.95	3.95	4.00	4.80	5.60	5.80	6.70	7.00	7.50	8.00	8.50	9.00	9.35	.187
13–14	4.50	4.50	4.60	5.40	6.30	6.50	7.40	7.70	8.20	9.00	9.50	10.00	10.40	.208
15–16	5.20	5.20	5.50	6.20	6.75	7.30	7.90	8.50	9.10	9.90	10.50	11.15	11.60	.232
17–18	5.60	5.80	6.10	6.75	7.60	8.00	8.60	9.20	10.00	11.00	11.70	12.50	13.00	.26
19–20	6.40	6.40	6.70	7.60	8.50	9.00	9.60	10.50	12.00	13.50	14.40	15.00	15.65	.313
21–22	7.30	7.30	7.70	8.70	9.80	10.50	11.60	12.30	14.00	15.50	17.00	17.75	18.50	.37
23–24	8.10	8.40	8.80	10.00	11.15	12.00	13.00	14.00	16.00	17.00	18.00	20.00	20.85	.417
25–26	8.90	9.60	10.20	11.30	12.50	13.60	15.00	16.50	18.90	19.80	20.70	21.60	22.50	.45
27	9.00	10.00	10.80	12.00	13.25	14.40	15.60	17.25	19.00	20.90	21.85	22.80	23.75	.475
28		10.80	11.40	12.70	14.00	15.20	17.10	18.00	20.00	22.00	23.00	24.00	25.00	.50
29–30			13.00	14.40	15.80	17.20	18.60	20.00	22.00	23.85	24.90	26.00	27.10	.542
31–32				15.00	16.00	17.50	19.50	21.50	23.50	24.00	26.00	27.50	29.00	.58
33–34					17.50	18.50	20.00	22.50	24.50	26.50	28.00	30.00	31.25	.625
35–36						20.00	23.00	26.00	27.00	29.00	30.50	32.00	33.35	.667
37–38							26.00	27.00	30.00	31.00	33.00	34.00	35.50	.71
39–40								28.00	31.50	33.00	34.00	35.50	37.00	.74
41–42									33.00	34.00	35.00	36.50	38.50	.77
43–44										35.00	36.50	38.00	39.60	.792

LIST PRICES per Lineal Inch of Length for Sizes Over 44" Wide

Width	Per Inch	Width	Per Inch	Width	Per Inch	Width	Per Inch	Width	Per Inch
45–46	.815	51–52	.90	57–58	1.04	63–64	1.16	69–70	1.30
47–48	.835	53–54	.95	59–60	1.08	65–66	1.20	71–72	1.35
49–50	.87	55–56	1.00	61–62	1.12	67–68	1.25	73–74	1.40

Abbreviations of Standard Finishes of Groups 1 - 2 - 3 - 4.

Group-1-Finishes
B.J. — Black Japan
MT. — Metalac
P.C. — Prime Coat

Group-2-Finishes
W. — White
Oak
IV. — Ivory

Group-3-Finishes
S.BZ — Statuary Bronze

Group-4-Finishes
C.H. — Chrome

LIST PRICES of U. S. STEEL FLOOR REGISTER BODIES — All Sizes

(Meaning Floor Registers Less Faces)

To Determine Complete Register List Prices add Body List to Register Top Lists on Page 55 and deduct 10%.

WIDTH, INCHES	LENGTH, Inches 4 5 6	7 8	9	10	11 12	13 14	15	16	17 18	19 20	21 22	23 24	25 26
4	.80	.80	.80	.80	.80	1.10	1.30	1.50	1.85	2.25	2.60	3.00	3.40
5	.80	.80	.80	.80	.80	1.20	1.45	1.70	2.20	2.60	3.10	3.50	4.00
6	.80	.80	.80	.80	.80	1.30	1.60	1.90	2.40	3.00	3.50	4.00	4.60
7		.80	.80	.80	.85	1.50	1.80	2.10	2.80	3.50	4.20	4.85	5.50
8		.80	.80	.80	.85	1.60	2.00	2.30	3.20	4.00	4.80	5.60	6.40
9			.80	.85	.90	1.70	2.10	2.55	3.40	4.20	5.00	5.80	6.70
10				.90	.95	1.80	2.20	2.70	3.45	4.45	5.40	6.20	7.00
11–12					1.80	2.20	2.70	3.15	4.15	5.10	6.20	7.10	8.00
13–14						3.40	....	4.50	5.60	6.70	7.80	8.80	10.00
15–16							6.00	6.00	7.20	8.40	9.70	10.80	12.00
17–18									9.00	10.20	11.60	13.00	14.00
19–20										12.00	13.60	15.20	16.80
21–22											16.00	17.80	19.40
23–24												20.00	22.00
25–26													24.20

WIDTH, INCHES	LENGTH, Inches 27	28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 46	47 48	49 50	List per Lineal Inch Over 50″ Lengths
4	3.80	3.80	4.20	4.60	5.00	5.40	5.80	4.20	6.60	7.00	7.40	7.80	8.20	.164
5	4.50	4.50	4.90	5.40	5.80	6.30	6.75	7.20	7.70	8.10	8.40	8.80	9.15	.183
6	5.20	5.20	5.75	6.25	6.80	7.30	7.90	8.40	9.00	9.40	9.90	10.40	10.80	.215
7	6.20	6.20	6.90	7.60	8.30	9.00	9.70	10.40	11.10	11.80	12.50	13.20	13.90	.278
8	7.20	7.20	8.00	8.80	9.60	10.40	11.20	12.00	12.80	13.60	14.40	15.20	16.00	.32
9	7.50	7.50	8.40	9.20	10.10	10.90	11.70	12.50	13.30	14.20	15.10	16.00	16.90	.338
10	7.90	7.90	8.80	9.70	10.50	11.40	12.30	13.10	14.00	14.90	15.80	16.70	17.60	.352
11–12	9.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	18.50	20.00	.40
13–14	11.00	11.00	12.00	13.20	14.25	15.30	16.35	17.40	18.40	19.50	20.50	21.50	22.60	.452
15–16	13.20	13.20	14.40	15.60	16.80	18.00	19.20	20.30	21.50	22.70	24.00	25.20	26.40	.528
17–18	15.00	15.60	17.00	18.30	19.70	21.00	22.35	23.70	24.00	25.50	27.00	29.00	31.00	.62
19–20	18.50	18.50	20.00	21.60	23.20	24.80	26.30	27.80	29.30	30.80	32.30	33.70	35.20	.704
21–22	21.20	21.20	23.00	24.70	26.30	28.00	29.70	31.30	33.00	34.70	36.00	37.70	39.40	.788
23–24	23.00	24.00	25.80	27.50	29.30	30.90	32.70	34.20	35.80	37.60	38.50	40.70	42.50	.85
25–26	26.00	26.00	28.00	29.60	31.40	33.20	35.00	36.80	38.60	40.40	42.20	44.00	45.80	.916
27	27.00	27.80	28.40	30.30	32.20	34.10	36.00	37.90	39.80	41.70	43.60	45.50	47.40	.948
28		28.00	30.00	31.90	33.80	35.70	37.60	39.30	41.20	43.10	45.00	46.90	48.80	.976
29–30			32.70	34.60	36.50	38.40	40.20	42.00	44.00	46.00	48.00	49.80	52.00	1.04
31–32				37.20	39.00	41.00	43.00	45.00	47.00	49.00	51.00	53.00	55.00	1.10
33–34					42.00	44.00	46.00	48.00	50.00	52.00	54.00	56.00	58.00	1.16
35–36						47.00	49.00	51.00	53.00	55.00	57.00	59.00	61.00	1.22
37–38							.....	....	56.00	58.00	60.00	62.00	64.00	1.28
39–40								53.60	56.30	58.95	61.65	64.30	67.00	1.34
41–42									58.80	61.60	64.40	67.20	70.00	1.40
43–44										64.25	67.15	70.10	73.00	1.46

LIST PRICES per Lineal Inch of Length for Sizes Over 44″ Wide

Width	Per Inch	Width	Per Inch	Width	Per Inch	Width	Per Inch	Width	Per Inch
45–46	1.52	51–52	1.70	57–58	1.88	63–64	2.06	69–70	2.24
47–48	1.58	53–54	1.76	59–60	1.94	65–66	2.12	71–72	2.30
49–50	1.64	55–56	1.82	61–62	2.00	67–68	2.18	73–74	2.36

Abbreviations of Standard Finishes of Groups 1 - 2 - 3 - 4.

U. S. STEEL BACK PRESSURE DAMPERS

No. 60 U. S. Back Pressure Damper

Can be attached to or used with U. S. Steel Grilles, Steel Faces or Wire Screens. Damper louvers are die-cut. Always specify by size of duct or opening in which the damper frame fits. The frames are built to fit flush or inside of the duct opening.

See STYLES of Frame Assembly below.

When ordering U. S. Back Pressure Dampers the first dimension represents width of wall or duct opening and the second dimension represents the height.

To be safe — specify WHICH DIMENSION IS WIDTH AND WHICH DIMENSION IS HEIGHT, i.e., 20 inches wide by 30 inches high.

Order by Style Number and Duct Size

LIST PRICES

Duct Size	Amt.	Duct Size	Amt.	Duct Size	Amt.
6 x 10	$ 4.60	14 x 24	$12.00	24 x 24	$25.36
6 x 12	5.40	14 x 26	13.35	24 x 26	27.33
6 x 14	5.70	14 x 28	14.35	24 x 28	28.67
6 x 16	6.00	14 x 30	16.00	24 x 30	31.68
6 x 18	6.55	16 x 16	13.20	24 x 32	33.67
6 x 20	6.80	16 x 18	14.55	24 x 34	34.50
6 x 22	7.45	16 x 20	15.65	24 x 36	38.41
6 x 24	7.80	16 x 22	17.00	24 x 38	38.80
8 x 8	5.50	16 x 24	18.96	24 x 40	41.20
8 x 10	5.80	16 x 26	21.30	24 x 42	41.32
8 x 12	6.60	16 x 28	22.70	24 x 44	42.69
8 x 14	6.93	16 x 30	24.96	24 x 46	45.35
8 x 16	7.20	16 x 32	25.16	24 x 48	48.96
8 x 18	7.73	16 x 36	25.36	26 x 26	27.70
8 x 20	8.00	18 x 18	15.56	26 x 28	29.33
8 x 22	8.62	18 x 20	17.28	26 x 30	32.21
8 x 24	9.00	18 x 22	18.67	26 x 36	40.70
8 x 26	10.00	18 x 24	20.72	26 x 42	49.17
8 x 28	11.33	18 x 26	22.05	26 x 48	51.65
8 x 30	12.00	18 x 28	23.50	28 x 28	32.00
10 x 10	6.60	18 x 30	25.92	28 x 30	34.88
10 x 12	6.80	18 x 32	27.25	28 x 32	37.54
10 x 14	7.33	18 x 34	28.59	28 x 34	40.21
10 x 16	7.80	18 x 36	31.95	28 x 36	41.32
10 x 18	8.33	18 x 48	37.44	28 x 38	44.00
10 x 20	9.00	20 x 20	19.20	28 x 40	46.67
10 x 22	10.00	20 x 22	20.55	28 x 42	51.84
10 x 24	10.40	20 x 24	22.04	28 x 48	54.32
10 x 26	11.33	20 x 26	24.37	30 x 30	41.04
10 x 28	12.67	20 x 28	25.71	30 x 32	43.70
10 x 30	14.00	20 x 30	28.80	30 x 34	46.37
12 x 12	7.20	20 x 32	30.13	30 x 36	49.58
12 x 14	8.00	20 x 34	31.47	30 x 40	52.24
12 x 16	8.60	20 x 36	34.56	30 x 42	54.72
12 x 18	8.90	20 x 40	40.00	30 x 44	57.38
12 x 20	10.00	20 x 48	42.08	30 x 46	60.00
12 x 22	10.35	22 x 22	23.24	30 x 48	66.96
12 x 24	10.80	22 x 24	24.36	36 x 36	54.45
12 x 26	12.00	22 x 26	26.69	36 x 42	63.84
12 x 28	13.35	22 x 28	28.03	36 x 48	72.56
12 x 30	14.30	22 x 30	30.68	42 x 42	80.64
14 x 14	8.60	22 x 32	33.00	42 x 48	85.68
14 x 16	8.90	22 x 34	34.25	48 x 48	87.00
14 x 18	9.35	22 x 36	38.00		
14 x 20	10.40	22 x 40	40.70		
14 x 22	11.33	22 x 48	45.12		

Always specify width and height dimensions.

U. S. STEEL BACK-PRESSURE DAMPERS ARE MADE IN THREE STYLES

Order by Style Number

STYLE 60

Made with double thickness Band Steel Frame to be attached to Face, Grille or Wire Screen or sets inside of duct or opening.

STYLE 70

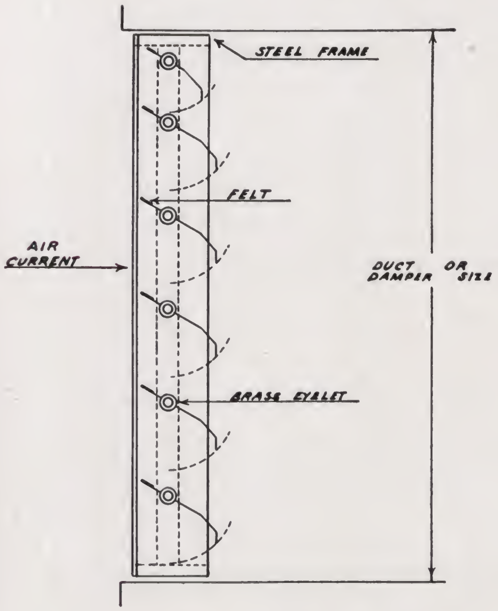
Made with Angle Frame that overlaps opening ¾ inch.

Louvers swing into duct or opening with air current.

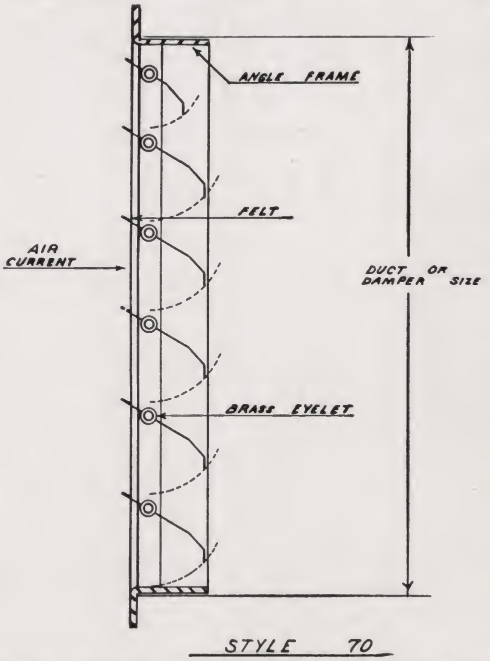
STYLE 80

Made with Angle Frame that overlaps opening ¾ inch.

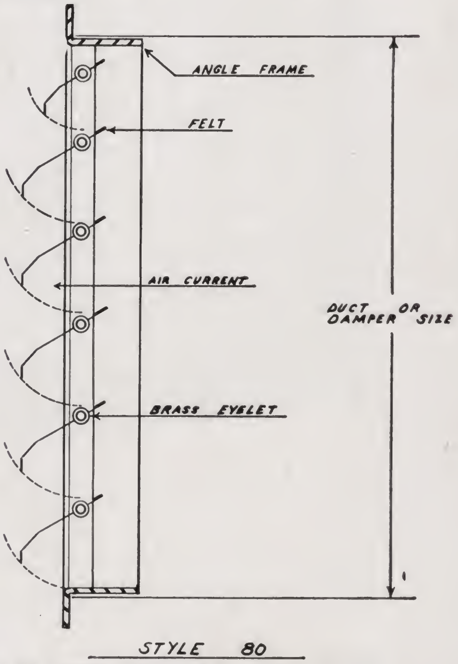
Louvers swing outward from duct with air current.



STYLE 60



STYLE 70

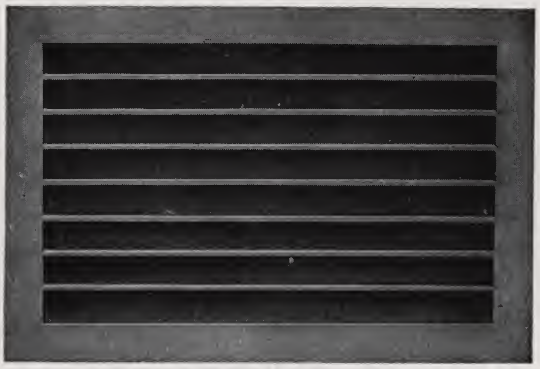


STYLE 80

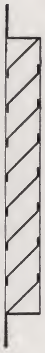
U. S. STEEL BACK PRESSURE DAMPERS are MADE SPECIAL TO ORDER and CANNOT BE RETURNED FOR CREDIT. Specify by Duct or Wall Opening size and width and height.

No. 680 U. S. OUTSIDE INTAKE VENTILATORS

(Made of Heavy Gauge Steel)



Front View



Sectional View

U. S. OUTSIDE INTAKE VENTILATORS are made of Heavy Gauge Steel to withstand many years of exposure to the elements. Are adaptable as outside fresh air intakes for Air-Conditioning and Ventilating Systems.

The Shutters are stationary and set at a fixed angle that admits Fresh Air Entrance, but prevents rain and snow from entering.

Louvers are set in angle frame which may be furnished drilled for attaching to wall when so specified — otherwise are furnished with frames not drilled.

Always when ordering designate HEIGHT and WIDTH. Orders cannot be filled without this definite information. Also be sure to order by size of wall opening.

No. 680 Outside Intakes are made special to order and cannot be returned for credit.

LIST PRICES of No. 680 U. S. Outside Intake Ventilators — Prime Coat Finish

Size	List	Size	List	Size	List	Size	List
10 x 6	$ 3.70	14 x 14	$ 9.75	20 x 14	$11.80	30 x 8	$10.10
10 x 8	4.80	16 x 6	5.35	20 x 16	13.30	30 x 10	12.35
10 x 10	6.00	16 x 8	6.60	20 x 18	14.75	30 x 12	14.65
12 x 8	5.45	16 x 9	7.25	20 x 20	16.15	30 x 16	19.15
12 x 9	6.05	16 x 10	7.90	24 x 8	8.70	30 x 20	23.80
12 x 10	6.60	16 x 12	9.20	24 x 10	10.50	30 x 24	28.35
12 x 12	7.80	16 x 14	10.45	24 x 12	12.30	36 x 8	11.15
14 x 6	4.80	16 x 16	11.75	24 x 14	14.20	36 x 10	13.75
14 x 8	6.05	20 x 6	6.10	24 x 16	16.00	36 x 12	16.35
14 x 9	6.65	20 x 8	7.50	24 x 18	17.80	36 x 16	21.55
14 x 10	7.30	20 x 10	8.95	24 x 20	19.65	36 x 20	26.75
14 x 12	8.55	20 x 12	10.40	24 x 24	23.00	36 x 24	32.15

May also be backed with Copper Wire Insect Screen at slight extra cost. Also galvanized screen or black wire-cloth. Specify mesh of screen required. Lighter Gauges for Attic Ventilation quoted on application.

No. 690 U. S. STEEL EXHAUST-FAN DAMPERS

Counter-Balanced Steel Louvers — More Substantial — Perfect Operation

No. 690 Exhaust Fan Damper

ANGLE FRAMES— Margin 1½″, Leg 1¾″.

Blades—Width 2¼″, Spaced 2″ O.C.

Overall of Leg Frame —⅛″ under Listed Size.

Extreme of Frame — 2½″ over Listed Size.

Screw Holes — 8 per Damper.

Finish—Metalac over Zinc Chromate.

Each Steel Damper is Die Stamped and suspended with Brass Bearings in the Frame. Louvers operate in unison — held equidistant by a spacing bar when fan is in operation and when fan shuts off the louvers close automatically and tightly.

IMPORTANT: U. S. 690 Dampers are constructed to open by fan pressure and MUST NOT be confused with Nos. 60, 70 or 80 Back Pressure Dampers.

Order by No. 690 and Duct or Wall Opening Size.

List Prices of Standard Sizes U. S. Exhaust-Fan Dampers

10 x 10	$14.00
12 x 12	16.00
14 x 14	17.00
16 x 16	18.00
18 x 18	19.40
20 x 20	24.00
24 x 24	26.80
28 x 28	33.20
30 x 30	43.20
34 x 34	50.40
36 x 36	66.00
40 x 40	72.00
42 x 42	75.20
44 x 44	79.60
48 x 48	88.00
50 x 50	97.40

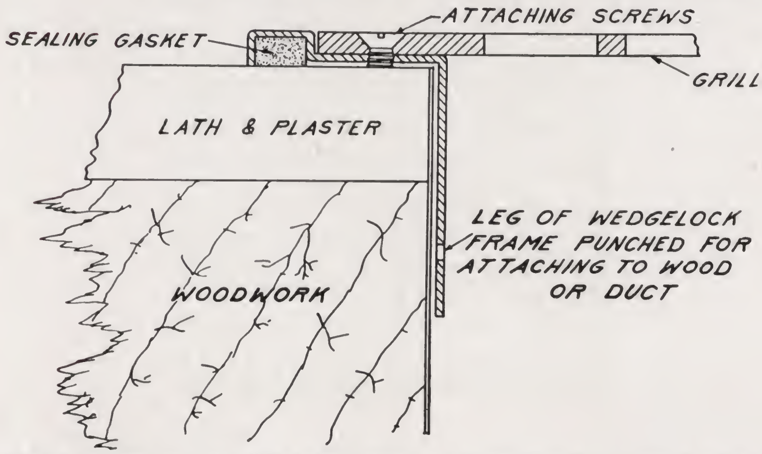
Order by size of duct or wall opening.

List Prices on special sizes will be furnished on application. Frames of exhaust-fan dampers are made in prime coat finish unless otherwise ordered.

U. S. Exhaust-Fan Dampers are made special to order and not carried in stock —THEREFORE CANNOT BE RETURNED FOR CREDIT.

No. 51 U. S. (OUTSIDE) FRAMES for FLAT STEEL GRILLES

Simplifies the Frame Problem — May Be Installed After Wall Surface is Finished — Also Serves as Plaster Ground — Grille May Be Readily Removed Without Disturbing Plaster or Wall Finish — FRAMES May Be Furnished With Gaskets — DEFINITELY PREVENT LEAKAGE


ATTACHING SCREWS
SEALING GASKET
GRILLE
LATH & PLASTER
LEG OF WEDGELOCK FRAME PUNCHED FOR ATTACHING TO WOOD OR DUCT
WOODWORK

The No. 51 U. S. Frame is a ROLL-FORMED PRODUCT which is a great feature of ECONOMY to Installers and Manufacturers of Perforated Grilles.

The Grilles set inside of Outer Border of Frames and attach to Face of Frames with Flat Head or Round Head Screws as required. This saves the annoyance and Expense of Heavy Angle Frames. Saves time and trouble in setting. Eliminates Outside Border Strips or Plaster Stops where required.

An assured Perfection of attaching of Grilles to Frames is guaranteed as our Policy is to ship No. 51 Frames and Perforated Grilles attached with screws. Frame Border is finished to match Grille Finish. ORDER BY DUCT SIZES and specify if Rubber Sealing Gasket is required.

OVERLAP of Frame over Wall Surface..............1¼"
Depth of Turned-Back Edge of Frame Border........¼"
Width of Face of Outer Frame Border.....................⅞"
Standard Length of Inside Leg of Frame..............1¾"

GRILLES for No. 51 FRAMES Must be so Specified to assure Perfect Fit.
Ducts should be built oversize to receive Frame Legs.
Special Allowance must be made in Duct Sizes of a Minimum of ⅜ inch oversize to accommodate No. 51 Frames when used with Floor Registers or Governair Registers.

LIST PRICES of No. 51 FRAMES

Duct Size Wide by High	NO. 51		
	Metalac Prime or B. J.	White Oak Lacquered	Standard Plated Finish
6 x 4	$1.05	$1.20	$1.85
6 x 6	1.10	1.25	2.00
8 x 4	1.10	1.25	1.90
8 x 5	1.15	1.30	1.95
8 x 6	1.20	1.35	2.10
8 x 8	1.25	1.45	2.25
10 x 4	1.20	1.35	2.05
10 x 5	1.25	1.40	2.10
10 x 6	1.30	1.45	2.20
10 x 8	1.35	1.55	2.35
10 x 10	1.45	1.65	2.65
12 x 4	1.25	1.40	2.15
12 x 5	1.30	1.45	2.30
12 x 6	1.35	1.55	2.35
12 x 8	1.45	1.65	2.55
12 x 10	1.55	1.75	2.85
12 x 12	1.65	1.85	3.15
14 x 4	1.35	1.50	2.30
14 x 5	1.40	1.60	2.40
14 x 6	1.45	1.65	2.55
14 x 8	1.55	1.70	2.70
14 x 10	1.65	1.85	3.15
14 x 12	1.75	2.05	3.35
14 x 14	1.85	2.10	3.60
16 x 4	1.45	1.60	2.45
16 x 5	1.50	1.70	2.55
16 x 6	1.55	1.75	2.70
16 x 8	1.60	1.85	2.95
16 x 10	1.70	2.00	3.30
16 x 12	1.80	2.10	3.60
16 x 14	1.95	2.25	3.80
16 x 16	2.10	2.45	4.05
18 x 4	1.50	1.70	2.50
18 x 5	1.60	1.80	2.70
18 x 6	1.65	1.85	2.90
18 x 8	1.70	1.95	3.25
18 x 10	$1.80	$2.10	$3.55
18 x 12	1.95	2.25	3.80
18 x 14	2.10	2.45	3.95
18 x 16	2.15	2.55	4.30
18 x 18	2.25	2.65	4.65
20 x 4	1.60	1.80	2.70
20 x 5	1.70	1.90	2.90
20 x 6	1.75	1.95	3.15
20 x 8	1.80	2.10	3.50
20 x 10	1.95	2.25	3.80
20 x 12	2.10	2.45	4.05
20 x 14	2.15	2.55	4.30
20 x 16	2.25	2.65	4.65
20 x 18	2.35	2.80	4.90
20 x 20	2.50	3.00	5.20
22 x 4	1.70	1.90	2.90
22 x 5	1.80	2.05	3.10
22 x 6	1.85	2.10	3.35
22 x 8	1.95	2.25	3.75
22 x 10	2.10	2.45	4.05
22 x 12	2.15	2.55	4.30
22 x 14	2.25	2.65	4.65
22 x 16	2.35	2.80	4.90
22 x 18	2.50	3.00	5.20
24 x 4	1.80	2.05	3.10
24 x 5	1.90	2.15	3.25
24 x 6	1.95	2.25	3.55
24 x 8	2.10	2.45	3.95
24 x 10	2.15	2.50	4.20
24 x 12	2.25	2.65	4.45
24 x 14	2.35	2.75	4.75
24 x 16	2.50	3.00	5.20
24 x 18	2.60	3.10	5.30
26 x 4	1.95	2.20	3.35
26 x 5	2.00	2.30	3.50
26 x 6	2.05	2.40	3.75
26 x 8	2.15	2.50	4.10
26 x 10	2.25	2.65	4.45
26 x 12	$2.35	$2.75	$4.75
26 x 14	2.50	3.00	5.20
26 x 16	2.60	3.10	5.30
26 x 18	2.75	3.25	5.50
28 x 4	2.10	2.35	3.55
28 x 5	2.10	2.40	3.70
28 x 6	2.15	2.50	4.00
28 x 8	2.25	2.60	4.30
28 x 10	2.35	2.75	4.75
28 x 12	2.50	2.95	5.05
28 x 14	2.60	3.10	5.30
28 x 16	2.75	3.25	5.50
28 x 18	2.90	3.40	5.70
30 x 4	2.15	2.45	3.70
30 x 5	2.20	2.50	3.90
30 x 6	2.25	2.60	4.20
30 x 8	2.35	2.75	4.55
30 x 10	2.50	2.95	4.95
30 x 12	2.60	3.05	5.25
30 x 14	2.75	3.25	5.50
30 x 16	2.90	3.40	5.70
30 x 18	3.10	3.60	6.45
34 x 6	2.50	2.90	4.70
34 x 8	2.60	3.00	5.00
34 x 10	2.75	3.25	5.50
34 x 12	2.90	3.40	5.70
34 x 14	3.10	3.60	6.45
34 x 16	3.25	3.80	6.90
34 x 18	3.45	4.00	7.40
36 x 4	2.50	2.90	4.65
36 x 6	2.60	3.00	4.90
36 x 8	2.70	3.15	5.15
36 x 10	2.80	3.30	5.60
36 x 12	2.90	3.55	6.45
36 x 14	3.25	3.80	6.90
36 x 16	3.45	4.00	7.40
36 x 18	3.65	4.20	7.90

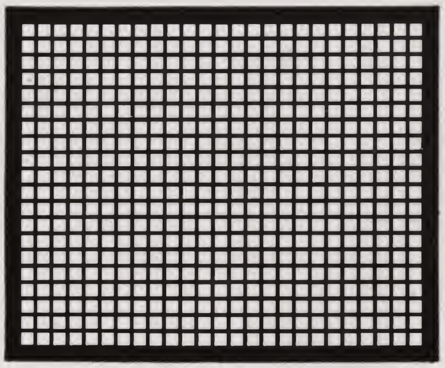
Specify No. 51 Frame by Duct Size. Grilles ordered with No. 51 will be trimmed as to Border Size to fit No. 51 Frame.

U. S. PERFORATED METAL GRILLES — Special Designs

Prices on Application

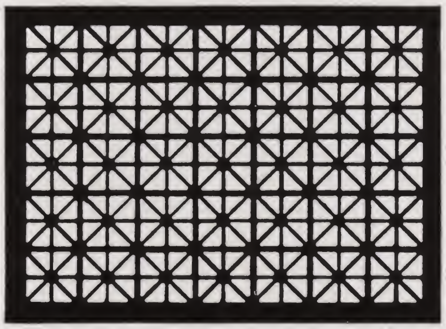
Made of STEEL or of Non-Ferrous Metal Such as COMMERCIAL BRONZE, ALUMINUM, Etc.

Square Lattice Designs



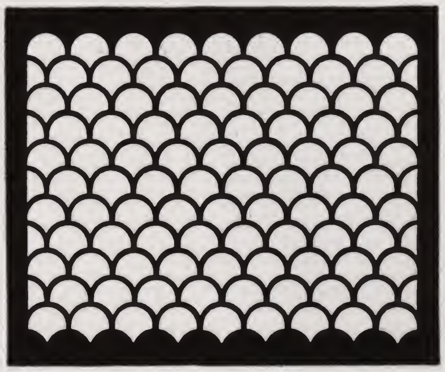
Style		Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style AA:	13/16″ Square Mesh 3/16″ Bars 69% Free Area	No. 7	No. 5
Style A:	⅞″ Square Mesh ¼″ Bars 61% Free Area	No. 7	No. 5
Style B:	¾″ Square Mesh ¼″ Bars 57% Free Area	No. 7	No. 5
Style C:	½″ Square Mesh 3/16″ Bars 53% Free Area	No. 10	No. 5

Union Jack Designs



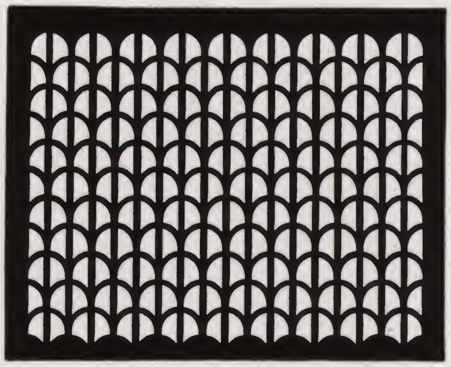
Style			Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style D:	3 ″ Basic Square	47% Free Area	No. 10	No. 7
Style E:	3½″ Basic Square	53% Free Area	No. 10	No. 7

Shell Design



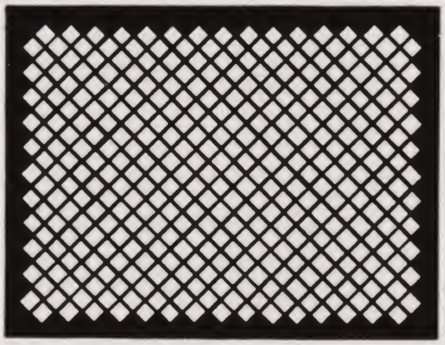
Style		Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style J:	2½″ Wide 2 5/16″ High. Free Area 69% ⅜″ Bars	No. 10	No. 7

Bisected Shell Design



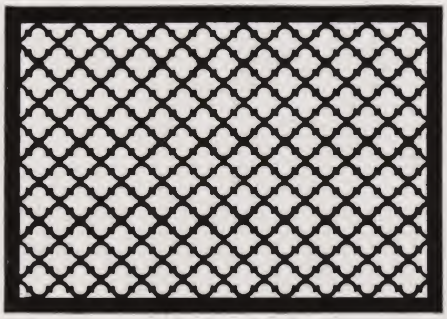
Style		Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style K:	2½″ Wide 2″ High. Free Area 54% ⅜″ Bars	No. 10	No. 7

Diagonal Square Lattice Design



Style		Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style F:	⅞″ Diagonal Mesh ¼″ Bars 61% Free Area	No. 10	No. 7
Style FF:	13/16″ Diagonal Mesh 3/16″ Bars 69% Free Area	No. 10	No. 7
Style G:	¾″ Diagonal Mesh ¼″ Bars 57% Free Area	No. 10	No. 7
Style H:	½″ Diagonal Mesh 3/16″ Bars 53% Free Area	No. 7	No. 5

Gothic Design



Style		Maximum Thickness U.S.S.Ga.	B.&S.Ga.
Style Q:	1½″x1¾″ Mesh Unit Size 2″ Wide 2⅛″ High Free Area 72%	No. 10	No. 7

Designate by Overall and Duct Dimension, Gauge of Metal, and Finish.

If Plated Finish is required or made of Non-Ferrous Metal specify if Polished or Finished one Side or Both Sides. See tables on following pages for Exact Daylight Sizes.

Note: Style AA will be furnished more promptly than any other style.

DAYLIGHT OR FREE AIR OPENING TABLE OF SQUARE LATTICE PERFORATED GRILLES

Designs AA-A-B-C

No. of Openings	STYLE AA	STYLE A	STYLE B	STYLE C	No. of Openings	STYLE AA	STYLE A	STYLE B	STYLE C
	69% Opening 13/16-inch Mesh, 3/16-inch Bars Length of D. L. Opening in Inches	61% Opening 7/8-inch Mesh, 1/4-inch Bars Length of D. L. Opening in Inches	57% Opening 3/4-inch Mesh, 1/4-inch Bars Length of D. L. Opening in Inches	53% Opening 1/2-inch Mesh, 3/16-inch Bars Length of D. L. Opening in Inches		69% Opening 13/16-inch Mesh, 3/16-inch Bars Length of D. L. Opening in Inches	61% Opening 7/8-inch Mesh, 1/4-inch Bars Length of D. L. Opening in Inches	57% Opening 3/4-inch Mesh, 1/4-inch Bars Length of D. L. Opening in Inches	53% Opening 1/2-inch Mesh, 3/16-inch Bars Length of D. L. Opening in Inches
1	13/16	7/8	3/4	1/2	55	54 13/16	61 5/8	54 3/4	37 5/8
2	1 13/16	2	1 3/4	1 3/16	56	55 13/16	62 3/4	55 3/4	38 5/16
3	2 13/16	3 1/8	2 3/4	1 7/8	57	56 13/16	63 7/8	56 3/4	39
4	3 13/16	4 1/4	3 3/4	2 9/16	58	57 13/16	65	57 3/4	39 11/16
5	4 13/16	5 3/8	4 3/4	3 1/4	59	58 13/16	66 1/8	58 3/4	40 3/8
6	5 13/16	6 1/2	5 3/4	3 15/16	60	59 13/16	67 1/4	59 3/4	41 1/16
7	6 13/16	7 5/8	6 3/4	4 5/8	61	60 13/16	68 3/8	60 3/4	41 3/4
8	7 13/16	8 3/4	7 3/4	5 5/16	62	61 13/16	69 1/2	61 3/4	42 7/16
9	8 13/16	9 7/8	8 3/4	6	63	62 13/16	70 3/8	62 3/4	43 1/8
10	9 13/16	11	9 3/4	6 11/16	64	63 13/16	71 3/4	63 3/4	43 13/16
11	10 13/16	12 1/8	10 3/4	7 3/8	65	64 13/16	72 7/8	64 3/4	44 1/2
12	11 13/16	13 1/4	11 3/4	8 1/16	66	65 13/16	74	65 3/4	45 3/16
13	12 13/16	14 3/8	12 3/4	8 3/4	67	66 13/16	75 1/8	66 3/4	45 7/8
14	13 13/16	15 1/2	13 3/4	9 7/16	68	67 13/16	76 1/4	67 3/4	46 9/16
15	14 13/16	16 5/8	14 3/4	10 1/8	69	68 13/16	77 3/8	68 3/4	47 1/4
16	15 13/16	17 3/4	15 3/4	10 13/16	70	69 13/16	78 1/2	69 3/4	47 15/16
17	16 13/16	18 7/8	16 3/4	11 1/2	71	70 13/16	79 5/8	70 3/4	48 5/8
18	17 13/16	20	17 3/4	12 3/16	72	71 13/16	80 3/4	71 3/4	49 5/16
19	18 13/16	21 1/8	18 3/4	12 7/8	73	72 13/16	81 7/8	72 3/4	50
20	19 13/16	22 1/4	19 3/4	13 9/16	74	73 13/16	83	73 3/4	50 11/16
21	20 13/16	23 3/8	20 3/4	14 1/4	75	74 13/16	84 1/8	74 3/4	51 3/8
22	21 13/16	24 1/2	21 3/4	14 15/16	76	75 13/16	85 1/4	75 3/4	52 1/16
23	22 13/16	25 5/8	22 3/4	15 5/8	77	76 13/16	86 3/8	76 3/4	52 3/4
24	23 13/16	26 3/4	23 3/4	16 5/16	78	77 13/16	87 1/2	77 3/4	53 7/16
25	24 13/16	27 7/8	24 3/4	17	79	78 13/16	88 5/8	78 3/4	54 1/8
26	25 13/16	29	25 3/4	17 11/16	80	79 13/16	89 3/4	79 3/4	54 13/16
27	26 13/16	30 1/8	26 3/4	18 3/8	81	80 13/16	90 7/8	80 3/4	55 1/2
28	27 13/16	31 1/4	27 3/4	19 1/16	82	81 13/16	92	81 3/4	56 3/16
29	28 13/16	32 3/8	28 3/4	19 3/4	83	82 13/16	93 1/8	82 3/4	56 7/8
30	29 13/16	33 1/2	29 3/4	20 7/16	84	83 13/16	94 1/4	83 3/4	57 9/16
31	30 13/16	34 5/8	30 3/4	21 1/8	85	84 13/16	95 3/8	84 3/4	58 1/4
32	31 13/16	35 3/4	31 3/4	21 13/16	86	85 13/16	96 1/2	85 3/4	58 15/16
33	32 13/16	36 7/8	32 3/4	22 1/2	87	86 13/16	97 5/8	86 3/4	59 5/8
34	33 13/16	38	33 3/4	23 3/16	88	87 13/16	98 3/4	87 3/4	60 5/16
35	34 13/16	39 1/8	34 3/4	23 7/8	89	88 13/16	99 7/8	88 3/4	61
36	35 13/16	40 1/4	35 3/4	24 9/16	90	89 13/16	101	89 3/4	61 11/16
37	36 13/16	41 3/8	36 3/4	25 1/4	91	90 13/16	102 1/8	90 3/4	62 3/8
38	37 13/16	42 1/2	37 3/4	25 15/16	92	91 13/16	103 1/4	91 3/4	63 1/16
39	38 13/16	43 5/8	38 3/4	26 5/8	93	92 13/16	104 3/8	92 3/4	63 3/4
40	39 13/16	44 3/4	39 3/4	27 5/16	94	93 13/16	105 1/2	93 3/4	64 7/16
41	40 13/16	45 7/8	40 3/4	28	95	94 13/16	106 5/8	94 3/4	65 1/8
42	41 13/16	47	41 3/4	28 11/16	96	95 13/16	107 3/4	95 3/4	65 13/16
43	42 13/16	48 1/8	42 3/4	29 3/8	97	96 13/16	108 7/8	96 3/4	66 1/2
44	43 13/16	49 1/4	43 3/4	30 1/16	98	97 13/16	110	97 3/4	67 3/16
45	44 13/16	50 3/8	44 3/4	30 3/4	99	98 13/16	111 1/8	98 3/4	67 7/8
46	45 13/16	51 1/2	45 3/4	31 7/16	100	99 13/16	112 1/4	99 3/4	68 9/16
47	46 13/16	52 5/8	46 3/4	32 1/8	101	100 13/16	113 3/8	100 3/4	69 1/4
48	47 13/16	53 3/4	47 3/4	32 13/16	102	101 13/16	114 1/2	101 3/4	69 15/16
49	48 13/16	54 7/8	48 3/4	33 1/2	103	102 13/16	115 5/8	102 3/4	70 5/8
50	49 13/16	56	49 3/4	34 3/16	104	103 13/16	116 3/4	103 3/4	71 5/16
51	50 13/16	57 1/8	50 3/4	34 7/8	105	104 13/16	117 7/8	104 3/4	72
52	51 13/16	58 1/4	51 3/4	35 9/16	106	105 13/16	119	105 3/4	72 11/16
53	52 13/16	59 3/8	52 3/4	36 1/4	107	106 13/16	120 1/8	106 3/4	73 3/8
54	53 13/16	60 1/2	53 3/4	36 15/16	108	107 13/16	121 1/4	107 3/4	74 1/16

The table on this page is very convenient when determining the border width or extreme size of grille required with given daylight or duct size.

Be sure to designate sizes with Free Air Openings that will cover Duct or Wall Opening sizes.

AND DEFINITELY DESIGNATE OVERALL SIZES AND GAUGE OF METAL.

FREE AIR OPENING TABLES OF STYLES J (Shell Design) K (Bisected Shell Design) and Q (Gothic Design)

Style of Unit	DAYLIGHT OPENINGS Style "J" Grilles		DAYLIGHT OPENINGS Style "K" Grilles		DAYLIGHT OPENINGS Style "Q" Grilles	
Openings	Width	Height	Width	Height	Width	Height
1	2 1/2	2 15/16	2 1/2	1 31/32	2	2 1/16
2	3 15/16	4 3/16	4	3 27/32	3	3 1/8
3	5 3/8	6 1/16	5 1/2	5 23/32	4	4 3/16
4	6 13/16	7 15/16	7	7 19/32	5	5 1/4
5	8 1/4	9 13/16	8 1/2	9 15/32	6	6 5/16
6	9 11/16	11 11/16	10	11 11/32	7	7 3/8
7	11 1/8	13 9/16	11 1/2	13 7/32	8	8 7/16
8	12 9/16	15 7/16	13	15 3/32	9	9 1/2
9	14	17 5/16	14 1/2	16 31/32	10	10 9/16
10	15 7/16	19 3/16	16	18 27/32	11	11 5/8
11	16 7/8	21 1/16	17 1/2	20 23/32	12	12 11/16
12	18 5/16	22 15/16	19	22 19/32	13	13 3/4
13	19 3/4	24 13/16	20 1/2	24 15/32	14	14 13/16
14	21 3/16	26 11/16	22	26 11/32	15	15 7/8
15	22 5/8	28 9/16	23 1/2	28 7/32	16	16 15/16
16	24 1/16	30 7/16	25	30 3/32	17	17
17	25 1/2	32 5/16	26 1/2	31 31/32	18	18 1/16
18	26 15/16	34 3/16	28	33 27/32	19	19 1/8
19	28 3/8	36 1/16	29 1/2	35 23/32	20	20 3/16
20	29 13/16	37 15/16	31	37 19/32	21	21 1/4
21	31 1/4	39 13/16	32 1/2	39 15/32	22	22 5/16
22	32 11/16	41 11/16	34	41 11/32	23	23 3/8
23	34 1/8	43 9/16	35 1/2	43 7/32	24	24 7/16
24	35 9/16	45 7/16	37	45 3/32	25	25 1/2
25	37	47 5/16	38 1/2	46 31/32	26	26 9/16
26	38 7/16	49 3/16	40	48 27/32	27	27 5/8
27	39 7/8	51 1/16	41 1/2	50 23/32	28	28 11/16
28	41 5/16	52 15/16	43	52 19/32	29	29 3/4
29	42 3/4	54 13/16	44 1/2	54 15/32	30	30 13/16
30	44 3/16	56 11/16	46	56 11/32	31	31 7/8
31	45 5/8	58 9/16	47 1/2	58 7/32	32	32 15/16
32	47 1/16	60 7/16	49	60 3/32	33	33
33	48 1/2	62 5/16	50 1/2	61 31/32	34	34 1/16
34	49 15/16	64 3/16	52	63 27/32	35	35 1/8
35	51 3/8	66 1/16	53 1/2	65 23/32	36	36 3/16
36	52 13/16	67 15/16	55	67 19/32	37	37 1/4
37	54 1/4	69 13/16	56 1/2	69 15/32	38	38 5/16
38	55 11/16	71 11/16	58	71 11/32	39	39 3/8
39	57 1/8	73 9/16	59 1/2	73 7/32	40	40 7/16
40	58 9/16	75 7/16	61	75 3/32	41	41 1/2
41	60	77 5/16	62 1/2	76 31/32	42	42 9/16
42	61 7/16	79 3/16	64	78 27/32	43	43 5/8
43	62 7/8	81 1/16	65 1/2	80 23/32	44	44 11/16
44	64 5/16	82 15/16	67	82 19/32	45	45 3/4
45	65 3/4	84 13/16	68 1/2	84 15/32	46	46 13/16
46	67 3/16	86 11/16	70	86 11/32	47	47 7/8
47	68 5/8	88 9/16	71 1/2	88 7/32	48	48 15/16
48	70 1/16	90 7/16	73	90 3/32	49	49
49	71 1/2	92 5/16	74 1/2	91 31/32	50	50 1/16
50	72 15/16	94 3/16	76	93 27/32	51	51 1/8
51	74 3/8	96 1/16	77 1/2	95 23/32	52	52 3/16
52	75 13/16	97 15/16	79	97 19/32	53	53 1/4
53	77 1/4	99 13/16	80 1/2	99 15/32	54	54 5/16
54	78 11/16	101 11/16	82	101 11/32	55	55 3/8
55	80 1/8	103 9/16	83 1/2	103 7/32	56	56 7/16
56	81 9/16	105 7/16	85	105 3/32	57	57 1/2
57	83	107 5/16	86 1/2	106 31/32	58	58 9/16
58	84 7/16	109 3/16	88	108 27/32	59	59 5/8
59	85 7/8	111 1/16	89 1/2	110 23/32	60	60 11/16
60	87 5/16	112 15/16	91	112 19/32	61	61 3/4
61	88 3/4	114 13/16	92 1/2	114 15/32	62	62 13/16
62	90 3/16	116 11/16	94	116 11/32	63	63 7/8
63	91 5/8	118 9/16	95 1/2	118 7/32	64	64 15/16
64	93 1/16	120 7/16	97	120 3/32	65	65
65	94 1/2	122 5/16	98 1/2	121 31/32	66	66 1/16
66	95 15/16	124 3/16	100	123 27/32	67	67 1/8
67	97 3/8	126 1/16	101 1/2	125 23/32	68	68 3/16

The table on this page is very convenient when determining the border width or extreme size of grille required with given daylight opening.

Be sure to designate sizes with Free Air Openings that will cover Duct or Wall Opening sizes.

AND DEFINITELY DESIGNATE OVERALL SIZES AND GAUGE OF METAL.

FREE AIR OPENING TABLES OF STYLES D AND E (Union Jack) DESIGNS

STYLES F — 7/8" Diagonal Square Mesh 1/4" Bars; H — 1/2" Diagonal Square Mesh 3/16" Bars.

DESIGN D—3-INCH BASIC SQUARE 5/16 BARS—47% FREE OPENING LENGTH OF DAYLIGHT OPENING				DESIGN E—3½-INCH BASIC SQUARE 5/16 BARS—52% FREE OPENING LENGTH OF DAYLIGHT OPENING			STYLE F, 7/8" DIAGONAL SQ. MESH 1/4" BARS		STYLE H, 1/2" DIAGONAL SQ. MESH 3/16" BARS	
No. of Basic Squares	5/16-Inch	3/8-Inch	7/16-Inch	5/16-Inch	3/8-Inch	7/16-Inch	No. of Holes	Length of D. L. Opening in Inches	No. of Holes	Length of D. L. Opening in Inches
1	3	3	3	3 1/2	3 1/2	3 1/2	3	2 3/4	3	1 5/8
2	6 5/16	6 3/8	6 7/16	7 5/16	7 3/8	7 7/16	5	4 3/8	5	2 19/32
3	9 5/8	9 3/4	9 7/8	11 1/8	11 1/4	11 3/8	7	6	7	3 9/16
4	12 15/16	13 1/8	13 5/16	14 15/16	15 1/8	15 5/16	9	7 5/8	9	4 17/32
5	16 1/4	16 1/2	16 3/4	18 3/4	19	19 1/4	11	9 1/4	11	5 1/2
6	19 9/16	19 7/8	20 3/16	22 9/16	22 7/8	23 3/16	13	10 7/8	13	6 15/32
7	22 7/8	23 1/4	23 5/8	26 3/8	26 3/4	27 1/8	15	12 1/2	15	7 7/16
8	26 3/16	26 5/8	27 1/16	30 3/16	30 5/8	31 1/16	17	14 1/8	17	8 13/32
9	29 1/2	30	30 1/2	34	34 1/2	35	19	15 3/4	19	9 3/8
10	32 13/16	33 3/8	33 15/16	37 13/16	38 3/8	38 15/16	21	17 3/8	21	10 11/32
11	36 1/8	36 3/4	37 3/8	41 5/8	42 1/4	42 7/8	23	19	23	11 5/16
12	39 7/16	40 1/8	40 13/16	45 7/16	46 1/8	46 13/16	25	20 5/8	25	12 9/32
13	42 3/4	43 1/2	44 1/4	49 1/4	50	50 3/4	27	22 1/4	27	13 1/4
14	46 1/16	46 7/8	47 11/16	53 1/16	53 7/8	54 11/16	29	23 7/8	29	14 7/32
15	49 3/8	50 1/4	51 1/8	56 7/8	57 3/4	58 5/8	31	25 1/2	31	15 3/16
16	52 11/16	53 5/8	54 9/16	60 11/16	61 5/8	62 9/16	33	27 1/8	33	16 5/32
17	56	57	58	64 1/2	65 1/2	66 1/2	35	28 3/8	35	17 1/8
18	59 5/16	60 3/8	61 7/16	68 5/16	69 3/8	70 7/16	37	30 3/8	37	18 3/32
19	62 5/8	63 3/4	64 7/8	72 1/8	73 1/4	74 3/8	39	32	39	19 1/16
20	65 15/16	67 1/8	68 5/16	75 15/16	77 1/8	78 5/16	41	33 5/8	41	20 1/32
21	69 1/4	70 1/2	71 3/4	79 3/4	81	82 1/4	43	35 1/4	43	21
22	72 9/16	73 7/8	75 3/16	83 9/16	84 7/8	86 3/16	45	36 7/8	45	22
23	75 7/8	77 1/4	78 5/8	87 3/8	88 3/4	90 1/8	47	38 1/2	47	22 15/16
24	79 3/16	80 5/8	82 1/16	91 3/16	92 5/8	94 1/16	49	40 1/8	49	29 29/32
25	82 1/2	84	85 1/2	95	96 1/2	98	51	41 3/4	51	24 7/8
26	85 13/16	87 3/8	88 15/16	98 13/16	100 3/8	101 15/16	53	43 3/8	53	25 27/32
27	89 1/8	90 3/4	92 3/8	102 5/8	104 1/4	105 7/8	55	45	55	26 13/16
28	92 7/16	94 1/8	95 13/16	106 7/16	108 1/8	109 13/16	57	45 5/8	57	27 25/32
29	95 3/4	97 1/2	99 1/4	110 1/4	112	113 3/4	59	48 1/4	59	28 3/4
30	99 1/16	100 7/8	102 11/16	114 1/16	115 7/8	117 11/16	61	49 7/8	61	29 23/32
31	102 3/8	104 1/4	106 1/8	117 7/8	119 3/4	121 5/8	63	51 1/2	63	30 11/16
32	105 11/16	107 5/8	109 9/16	121 11/16	123 5/8	125 9/16	65	53 1/8	65	31 21/32
33	109	111	113	125 1/2	127 1/2	129 1/2	67	54 3/4	67	32 5/8
34	112 5/16	114 3/8	116 7/16	129 5/16	131 3/8	133 7/16	69	56 3/8	69	33 19/32
35	115 5/8	117 3/4	119 7/8	133 1/8	135 1/4	137 3/8	71	58	71	34 9/16
36	118 15/16	121 1/8	123 5/16	136 15/16	139 1/8	141 5/16	73	59 5/8	73	35 17/32

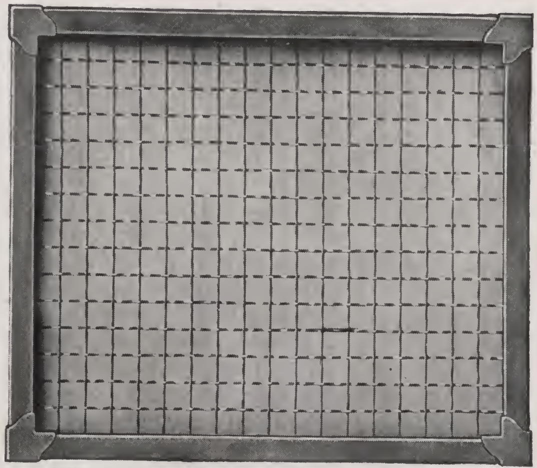
The table on this page is very convenient when determining the border width or extreme size of grille required with given daylight opening.

Be sure to designate sizes with Free Air Openings that will cover Duct or Wall Opening sizes.

AND DEFINITELY DESIGNATE OVERALL SIZES AND GAUGE OF METAL.

U. S. WIRE SCREENS — Designs No. 62 and No. 58

Design No. 62



U. S. Wire Screen

Angle Iron Frame

Design No. 62. Square Mesh, Round Wire. Angle Frame.

Design No. 58. Square Mesh, Round Wire. Channel Frame.

Order by Duct Size, Mesh Required and Design Number.

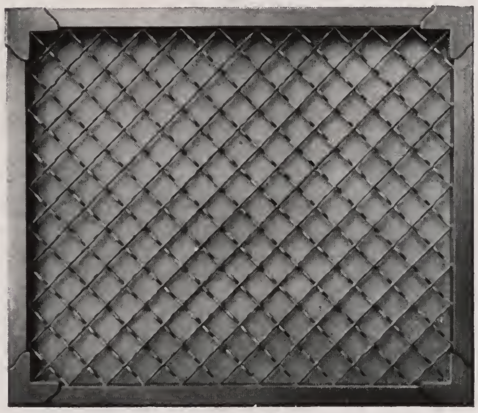
LIST PRICES Design No. 62 and 58

Size of Mesh in Inches	Gauge of Wire	Size of Frame in Inches	LIST PER SQUARE FOOT	
			Black	
2	No. 10	1 x 1	$0.80	Furnished in Black Finish only
1½	No. 11	1 x 1	.90	
1¼	No. 12	1 x 1	1.00	
1	No. 13	1 x 1	1.10	
¾	No. 14	1 x 1	1.20	

For Further Price Information No. 62 Wire Screens Refer to Current Discount Sheet.

U. S. WIRE SCREENS — Designs No. 61 and No. 59

Design No. 61



U. S. Wire Screen

Angle Iron Frame

Applies to Nos. 62 and 61 Wire Screens.

Always specify dimensions of opening in which screens fit.

1″ x 1″ Angle Iron Frame Screens are standard.

Regular frames have ornamental iron corners.

If welded corners are required, Extra Charge.

Design No. 61. Diagonal Square Mesh, Round Wire. Angle Frame.

Design No. 59. Diagonal Square Mesh, Round Wire. Channel Frame.

Order by Duct Size, Mesh Required and Design Number.

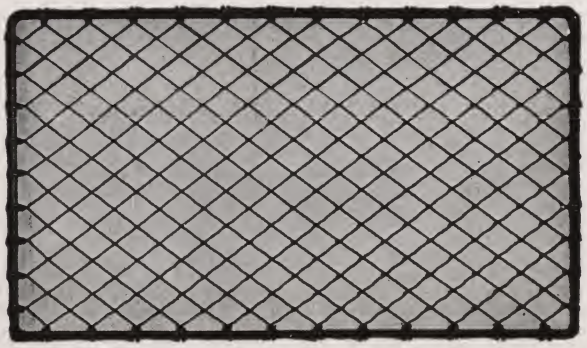
LIST PRICES Design No. 61 and 59

Size of Mesh in Inches	Gauge of Wire	Size of Frame in Inches	LIST PER SQUARE FOOT	
			Black	
2	No. 10	1 x 1	$0.80	Furnished in Black Finish only
1½	No. 11	1 x 1	.90	
1¼	No. 12	1 x 1	1.00	
1	No. 13	1 x 1	1.10	
¾	No. 14	1 x 1	1.20	

Wire Screens under 4 Square Feet will be charged at a minimum of 4 square feet. Same minimum applies to Window Guards.

WINDOW GUARDS

Design No. 49 — Diagonal Square Mesh, Round Wire, Round Iron Frame



LIST PRICES Design No. 49

Size of Mesh in Inches	Gauge of Wire	Size of Round Iron Frame in Inches	LIST PER SQUARE FOOT
			Black
1½	No. 10	¼, 5/16, 3/8 or ½	$0.50
1½	No. 12	¼, 5/16, 3/8 or ½	.45
1¼	No. 14	¼, 5/16, 3/8 or ½	.50

Order by Extreme Size of Window Guard required.